

CI 980

**MULTI-CHANNEL
AMPLIFIER**

SERVICE MANUAL

CI 980

**MULTI-CHANNEL
AMPLIFIER**

NAD

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PRODUCT SAFETY SERVICING GUIDELINES

CAUTION : DO NOT ATTEMPT TO MODIFY THIS PRODUCT IN ANY WAY. NEVER PERFORM CUSTOMIZED INSTALLATIONS WITHOUT MANUFACTURER'S APPROVAL. UNAUTHORIZED MODIFICATIONS WILL NOT ONLY VOID THE WARRANTY, BUT MAY LEAD TO YOUR BEING LIABLE FOR ANY RESULTING PROPERTY DAMAGE OR USER INJURY.

SERVICE WORK SHOULD BE PERFORMED ONLY AFTER YOU ARE THOROUGHLY FAMILIAR WITH ALL OF THE FOLLOWING SAFETY CHECKS AND SERVICING GUIDELINES. TO DO OTHERWISE, INCREASES THE RISK OF POTENTIAL HAZARDS AND INJURY TO THE USER.

WHILE SERVICING, USE AN ISOLATION TRANSFORMER FOR PROTECTION FROM AC LINE SHOCK.

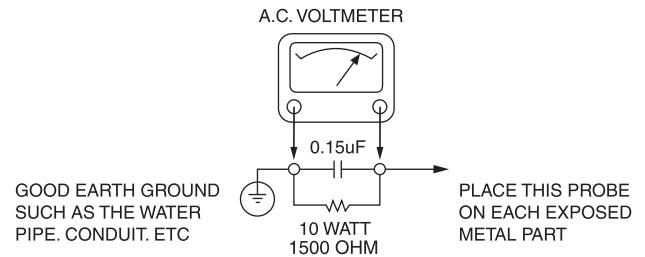
SAFETY CHECKS

AFTER THE ORIGINAL SERVICE PROBLEM HAS BEEN CORRECTED. A CHECK SHOULD BE MADE OF THE FOLLOWING.

SUBJECT : FIRE & SHOCK HAZARD

1. BE SURE THAT ALL COMPONENTS ARE POSITIONED IN SUCH A WAY AS TO AVOID POSSIBILITY OF ADJACENT COMPONENT SHORTS. THIS IS ESPECIALLY IMPORTANT ON THOSE MODULES WHICH ARE TRANSPORTED TO AND FROM THE REPAIR SHOP.
2. NEVER RELEASE A REPAIR UNLESS ALL PROTECTIVE DEVICES SUCH AS INSULATORS, BARRIERS, COVERS, SHIELDS, STRAIN RELIEFS, POWER SUPPLY CORDS, AND OTHER HARDWARE HAVE BEEN REINSTALLED PER ORIGINAL DESIGN. BE SURE THAT THE SAFETY PURPOSE OF THE POLARIZED LINE PLUG HAS NOT BEEN DEFEATED.
3. SOLDERING MUST BE INSPECTED TO DISCOVER POSSIBLE COLD SOLDER JOINTS, SOLDER SPLASHES OR SHARP SOLDER POINTS. BE CERTAIN TO REMOVE ALL LOOSE FOREIGN PARTICLES.
4. CHECK FOR PHYSICAL EVIDENCE OF DAMAGE OR DETERIORATION TO PARTS AND COMPONENTS. FOR FRAYED LEADS, DAMAGED INSULATION (INCLUDING AC CORD). AND REPLACE IF NECESSARY FOLLOW ORIGINAL LAYOUT, LEAD LENGTH AND DRESS.
5. NO LEAD OR COMPONENT SHOULD TOUCH A RECEIVING TUBE OR A RESISTOR RATED AT 1 WATT OR MORE. LEAD TENSION AROUND PROTRUDING METAL SURFACES MUST BE AVOIDED.
6. ALL CRITICAL COMPONENTS SUCH AS FUSES, FLAMEPROOF RESISTORS, CAPACITORS, ETC. MUST BE REPLACED WITH EXACT FACTORY TYPES, DO NOT USE REPLACEMENT COMPONENTS OTHER THAN THOSE SPECIFIED OR MAKE UNRECOMMENDED CIRCUIT MODIFICATIONS.
7. AFTER RE-ASSEMBLY OF THE SET ALWAYS PERFORM AN AC LEAKAGE TEST ON ALL EXPOSED METALLIC PARTS OF THE CABINET, (THE CHANNEL SELECTOR KNOB, ANTENNA TERMINALS. HANDLE AND SCREWS) TO BE SURE THE SET IS SAFET TO OPERATE WITHOUT DANGER OF ELECTRICAL SHOCK. DO NOT USE A LINE ISOLATION TRANSFORMER DURING THIS TEST USE AN AC VOLTMETER, HAVING 5000 OHMS PER VOLT OR MORE SENSITIVITY, IN THE FOLLOWING MANNER; CONNECT A 1500 OHM 10 WATT RESISTOR, PARALLELED BY A .15 MFD, 150V AC TYPE CAPACITOR BETWEEN A KNOWN GOOD EARTH GROUND (WATER PIPE, CONDUIT, ETC.) AND THE EXPOSED METALLIC PARTS, ONE AT A TIME.
MEASURE THE AC VOLTAGE ACROSS THE COMBINATION OF 1500 OHM RESISTOR AND .15 MFD CAPACITOR.
REVERSE THE AC PLUG AND REPEAT AC VOLTAGE MEASUREMENTS FOR EACH EXPOSED METALLIC PART.

VOLTAGE MEASURE MUST NOT EXCEED 75 VOLTS R.M.S. THIS CORRESPONDS TO 0.5 MILLIAMP AC ANY VALUE EXCEEDING THIS LIMIT CONSTITUTES A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED IMMEDIATELY.



SUBJECT : GRAPHIC SYMBOLS



THE LIGHTNING FLASH WITH ARROWHEAD SYMBOL, WITHIN AN EQUILATERAL TRIANGLE, IS INTENDED TO ALERT THE USER TO THE PRESENCE OF UNINSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK.



THE EXCLAMATION POINT WITHIN AN EQUILATERAL TRIANGLE IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE APPLIANCE.

SUBJECT : TIPS ON PROPER INSTALLATION

1. NEVER INSTALL ANY PRODUCT IN A CLOSED-IN RECESS, CUBBYHOLE OR CLOSELY FITTING SHELF SPACE. OVER OR CLOSE TO HEAT DUCT, OR IN THE PATH OF HEATED AIR FLOW.
2. AVOID CONDITIONS OF HIGH HUMIDITY SUCH AS: OUTDOOR PATIO INSTALLATIONS WHERE DEW IS A FACTOR, NEAR STEAM RADIATORS WHERE STEAM LEAKAGE IS A FACTOR, ETC.
3. AVOID PLACEMENT WHERE DRAPERIES MAY OBSTRUCT REAR VENTING. THE CUSTOMER SHOULD ALSO AVOID THE USE OF DECORATIVE SCARVES OR OTHER COVERINGS WHICH MIGHT OBSTRUCT VENTILATION.
4. WALL AND SHELF MOUNTED INSTALLATIONS USING A COMMERCIAL MOUNTING KIT MUST FOLLOW THE FACTORY APPROVED MOUNTING INSTRUCTIONS A PRODUCT MOUNTED TO A SHELF OR PLATFORM MUST RETAIN ITS ORIGINAL FEET (OR THE EQUIVALENT THICKNESS IN SPACERS) TO PROVIDE ADEQUATE AIR FLOW ACROSS THE BOTTOM, BOLTS OR SCREWS USED FOR FASTENERS MUST NOT TOUCH ANY PARTS OR WIRING. PERFORM LEAKAGE TEST ON CUSTOMIZED INSTALLATIONS.
5. CAUTION CUSTOMERS AGAINST THE MOUNTING OF A PRODUCT ON SLOPING SHELF OR A TILTED POSITION, UNLESS THE PRODUCT IS PROPERLY SECURED.
6. A PRODUCT ON A ROLL-ABOUT CART SHOULD BE STABLE ON ITS MOUNTING TO THE CART. CAUTION THE CUSTOMER ON THE HAZARDS OF TRYING TO ROLL A CART WITH SMALL CASTERS ACROSS THRESHOLDS OR DEEP PILE CARPETS.
7. CAUTION CUSTOMERS AGAINST THE USE OF A CART OR STAND WHICH HAS NOT BEEN LISTED BY UNDERWRITERS LABORATORIES, INC. FOR USE WITH THEIR SPECIFIC MODEL OF TELEVISION RECEIVER OR GENERICALLY APPROVED FOR USE WITH T.V.'S OF THE SAME OR LARGER SCREEN SIZE.
8. CAUTION CUSTOMERS AGAINST THE USE OF EXTENSION CORDS, EXPLAIN THAT A FOREST OF EXTENSIONS SPROUTING FROM A SINGLE OUTLET CAN LEAD TO DISASTROUS CONSEQUENCES TO HOME AND FAMILY.

SERVICING PRECAUTIONS

CAUTION : Before servicing the poweramplifier covered by this service data and its supplements and addends, read and follow the **SAFETY PRECAUTIONS**. **NOTE** : if unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions in this publication, always follow the safety precautions.

Remember Safety First:

General Servicing Precautions

1. Always unplug the poweramplifier AC power cord from the AC power source before:
 - (1) Removing or reinstalling any component, circuit board, module, or any other assembly.
 - (2) Disconnecting or reconnecting any internal electrical plug or other electrical connection.
 - (3) Connecting a test substitute in parallel with an electrolytic capacitor.**Caution** : A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
2. Do not spray chemicals on or near this poweramplifier or any of its assemblies.
3. Unless specified otherwise in this service data, clean electrical contacts by applying an appropriate contact cleaning solution to the contacts with a pipe cleaner, cottontipped swab, or comparable soft applicator.
Unless specified otherwise in this service data, lubrication of contacts is not required.
4. Do not defeat any plug/socket B+ voltage interlocks with which instruments covered by this service manual might be equipped.
5. Do not apply AC power to this poweramplifier and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
6. Always connect test instrument ground lead to the appropriate ground before connecting the test instrument positive lead. Always remove the test instrument ground lead last.

Insulation Checking Procedure

Disconnect the attachment plug from the AC outlet and turn the power on. Connect an insulation resistance meter(500V) to the blades of the attachment plug. The insulation resistance between each blade of the attachment plug and accessible conductive parts (Note 1) should be more than 1M-ohm.

Note 1 : Accessible Conductive Parts including Metal panels, Input terminals, Earphone jacks, etc.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical Es devices are integrated circuits and some field effect transistors and semiconductor chip components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an antistatic solder removal device. Some solder removal devices not classified a "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freonpropelled chemicals. These can generate electrical charge sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil, or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

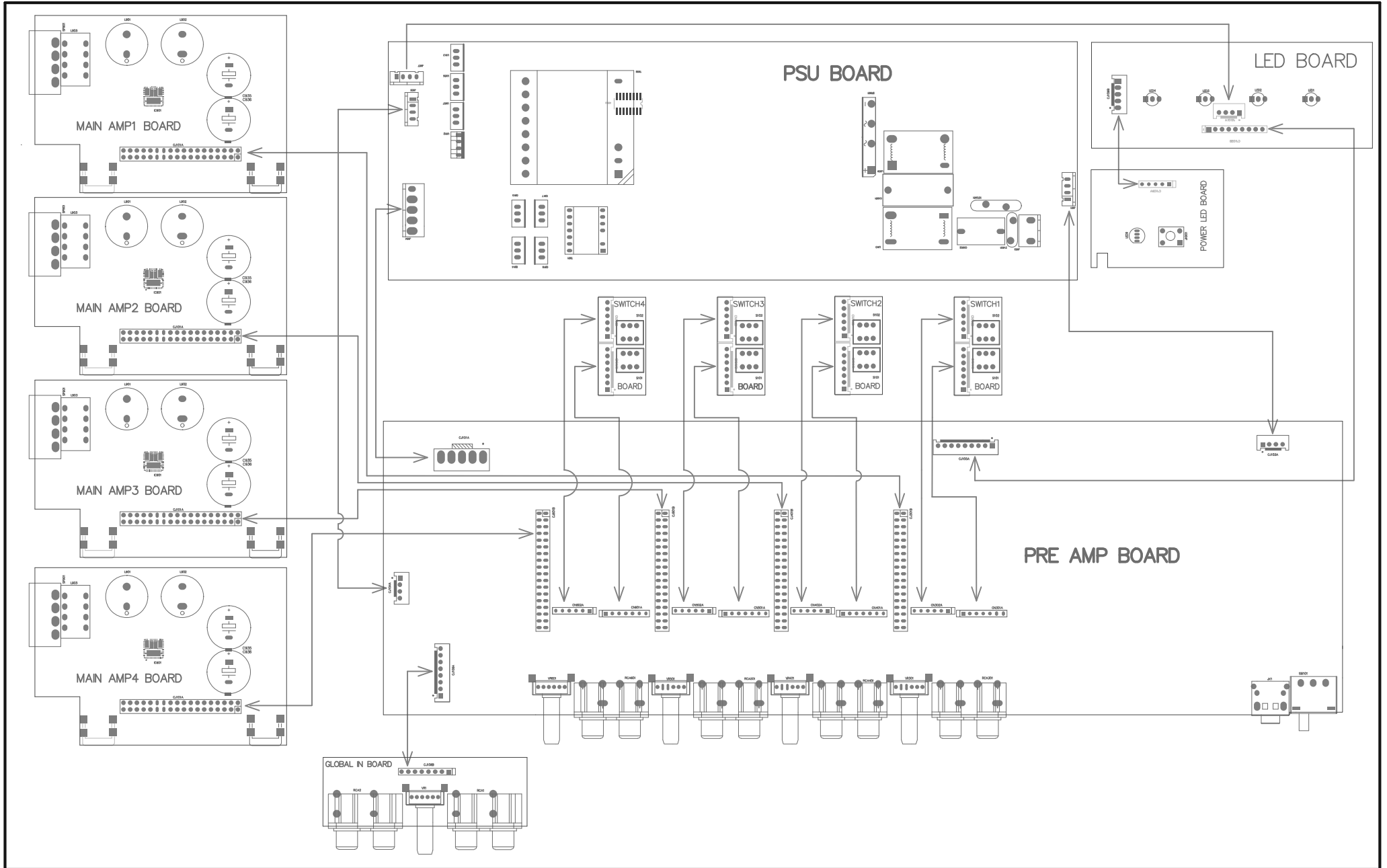
Caution : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handing unpackaged replacement ES devices. (Normally harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

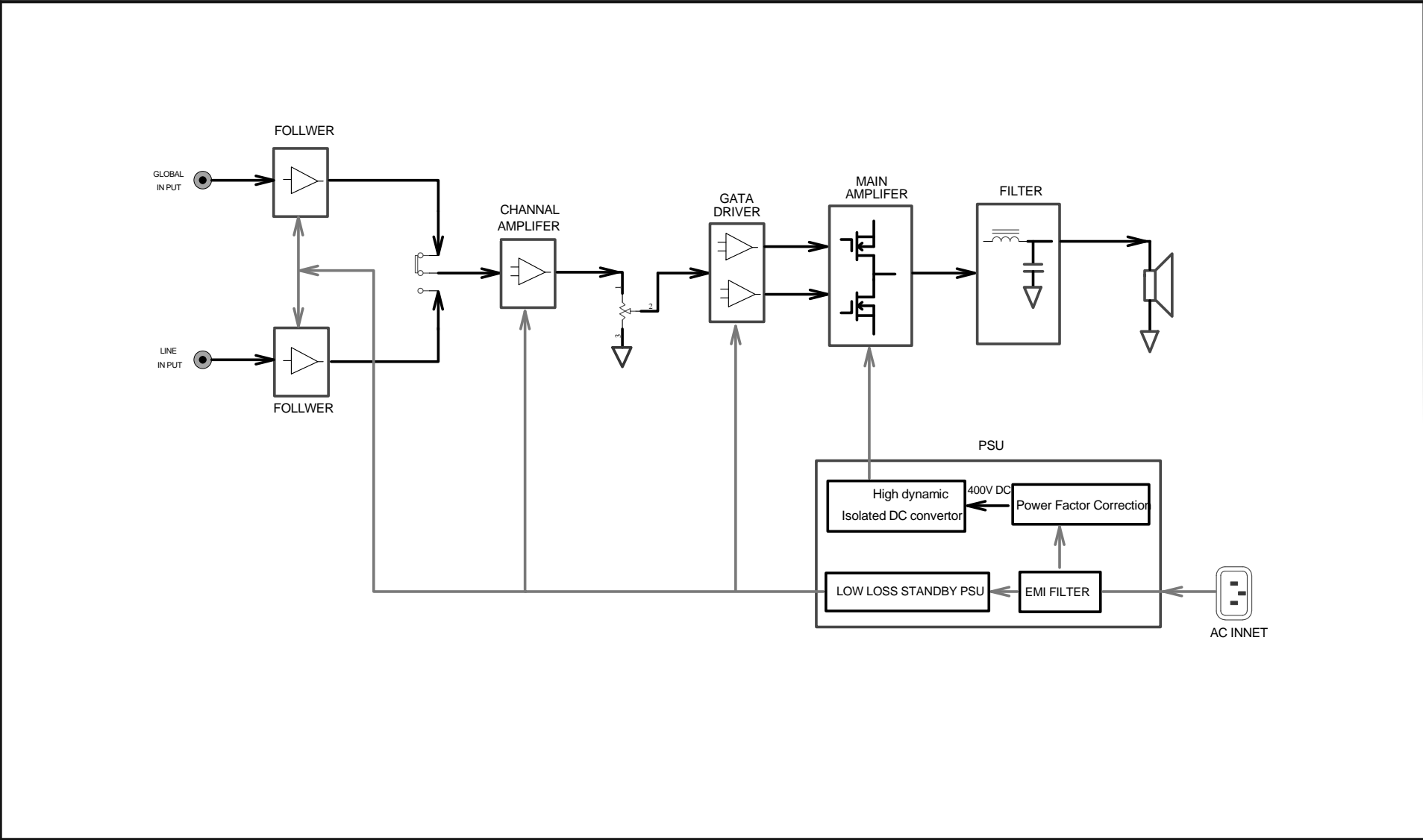
SPECIFICATIONS

		CI 980
Continuous Output Power	8 Ohms 4 Ohms 8 Ohms in Bridge Mode	8 x 50W (ref. rated THD, 20Hz-20kHz, all channels driven) 8 x 60W 120W
Rated THD (250mW to rated power, CCIF IMD, DIM 100)		≤0.03% (ref. 20Hz-20kHz)
Clipping Power		≥155W (ref. 1kHz, 8 ohms, 0.1% THD)
Damping Factor		>150 (ref. 8 ohms, 50Hz and 1kHz)
Input Sensitivity		1.1V (ref. rated power)
Voltage Gain		33dB
Frequency Response		20Hz-20kHz ±1dB
Signal/Noise Ratio, A-Weighted		>80dB (ref. 1W/8 ohms) >100dB (ref. 50W)
Trigger		5-30V In (AC/DC) -52dBV, 12V Out
Time to Automatic Standby (without signal)		<30 minutes
GENERAL		
Rated Power		600W (120V 60Hz, 230V 50Hz)
Idle Power		<26W
Standby power		<0.5W
Unit Dimension (WxHxD) - Gross ** (includes knobs, terminals and mounting brackets)		483 x 89 x 323mm 19 x 3 1/2 x 12 3/4"
Net weight		5.72kg (12.6lb)
Shipping weight		7.1kg (15.65lb)

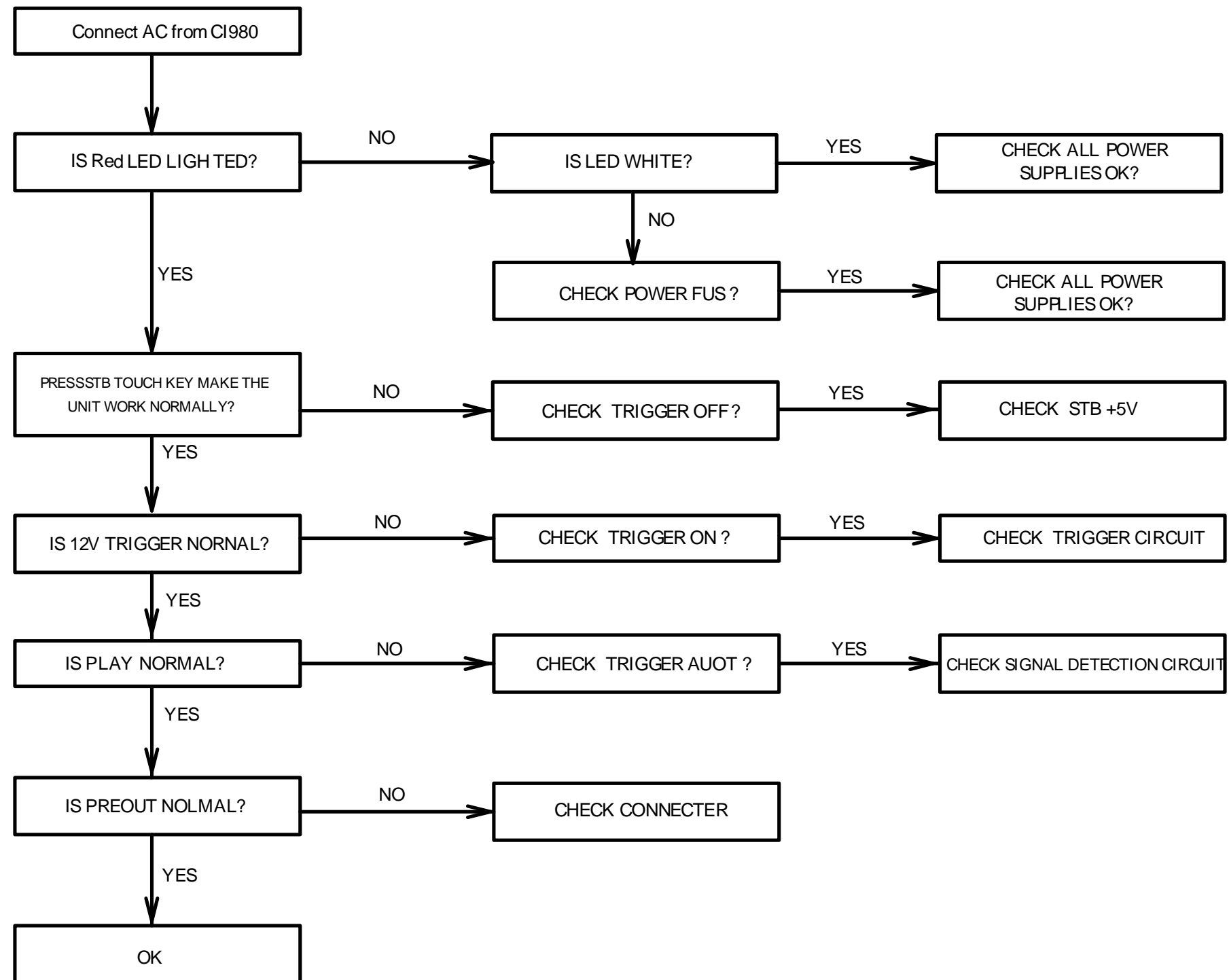
WIRE DIAGRAM



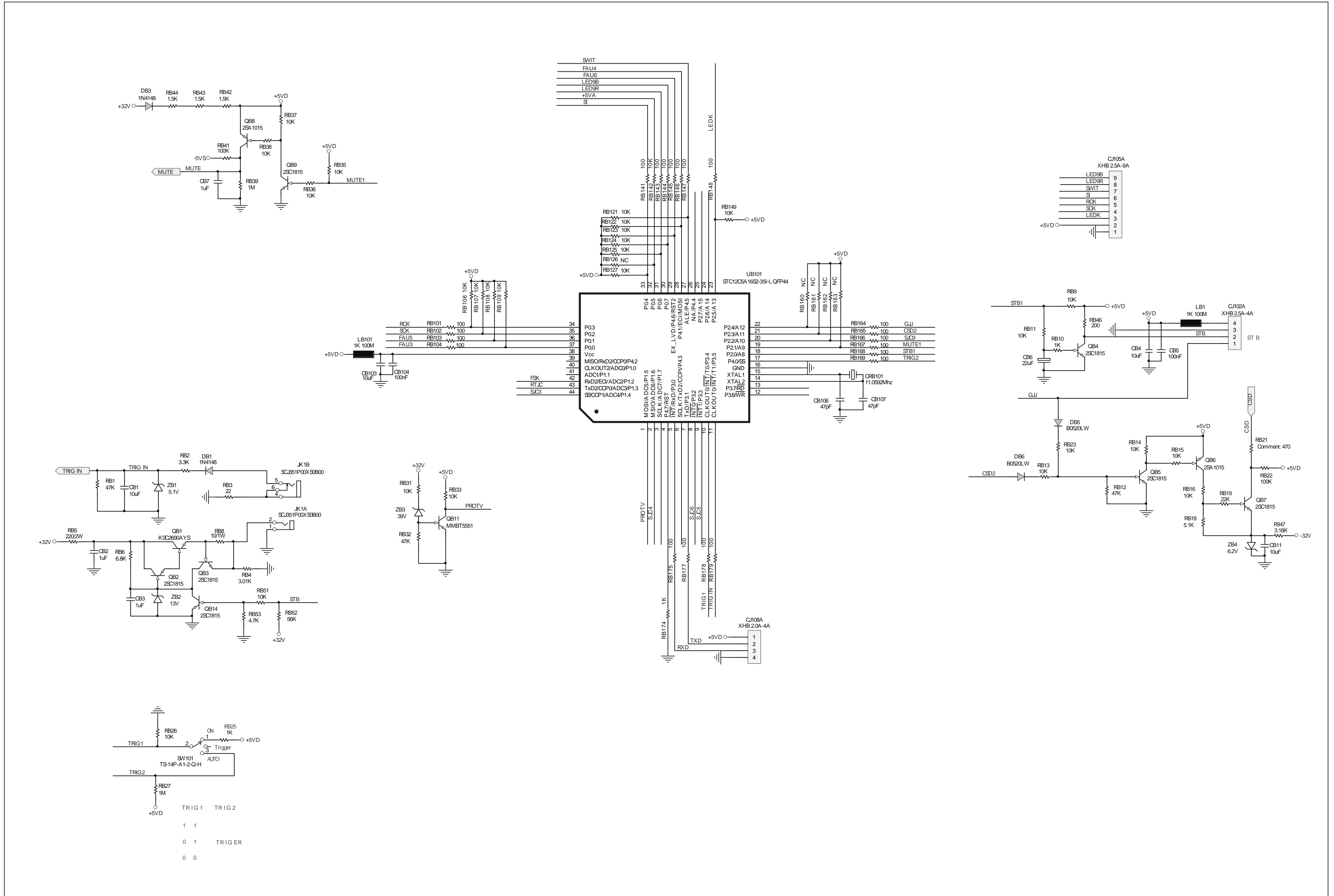
BLOCK DIAGRAM



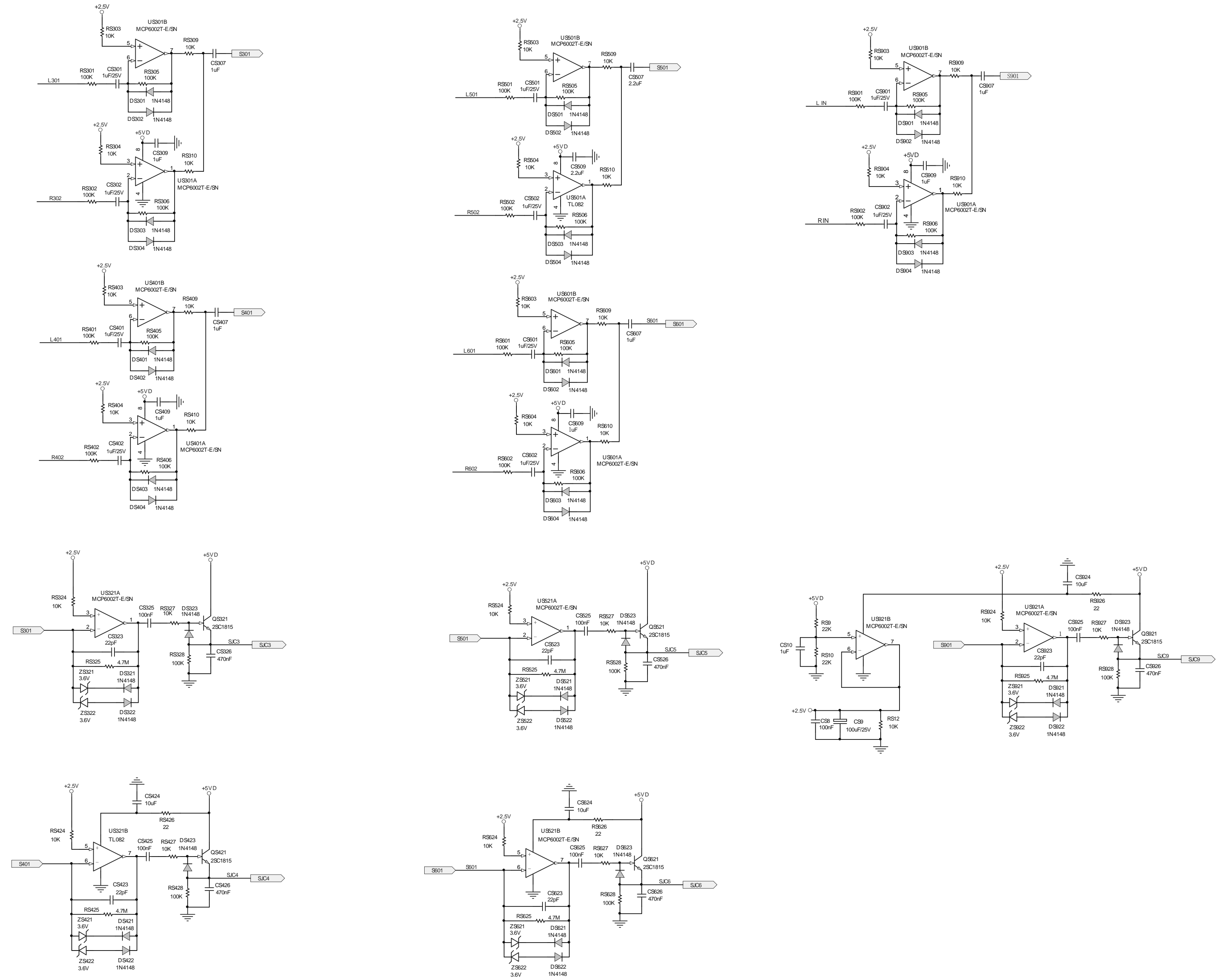
TROUBLESHOOTING GUIDE



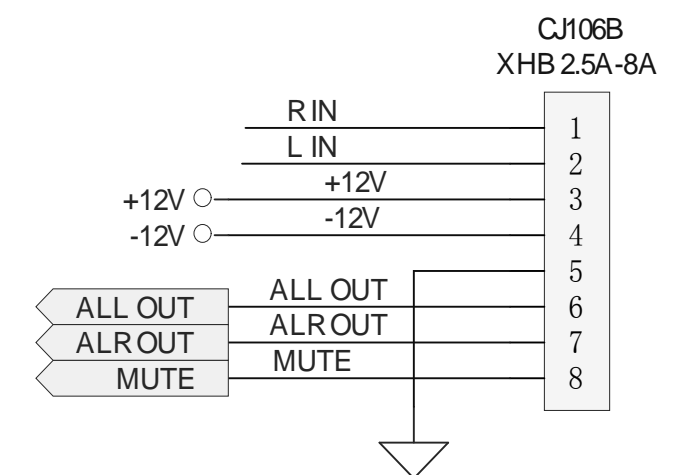
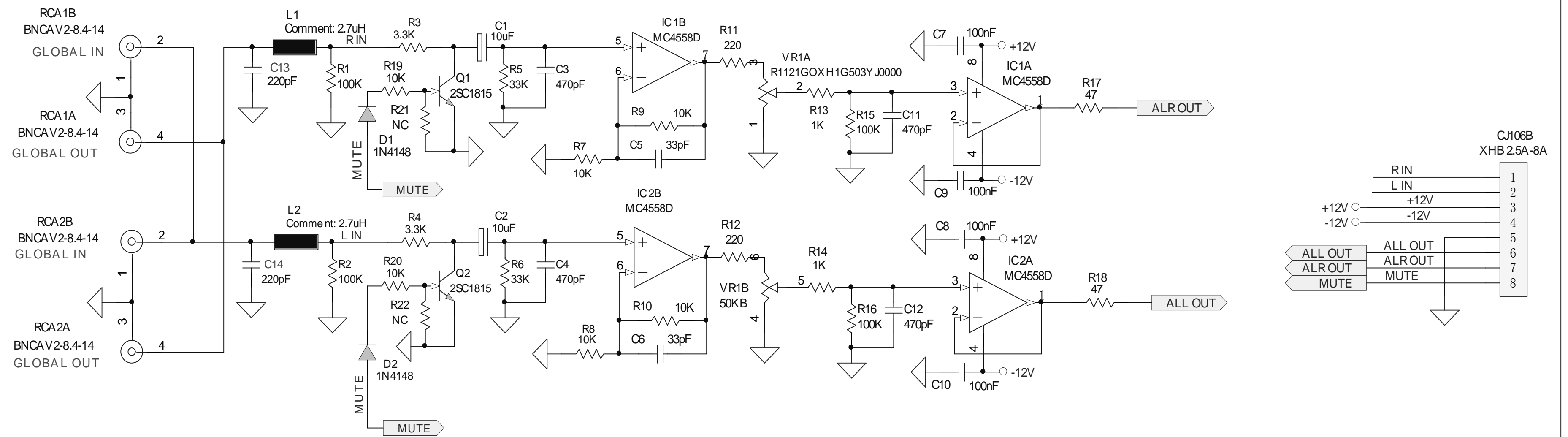
2.PRE AMP BOARD(3/4)



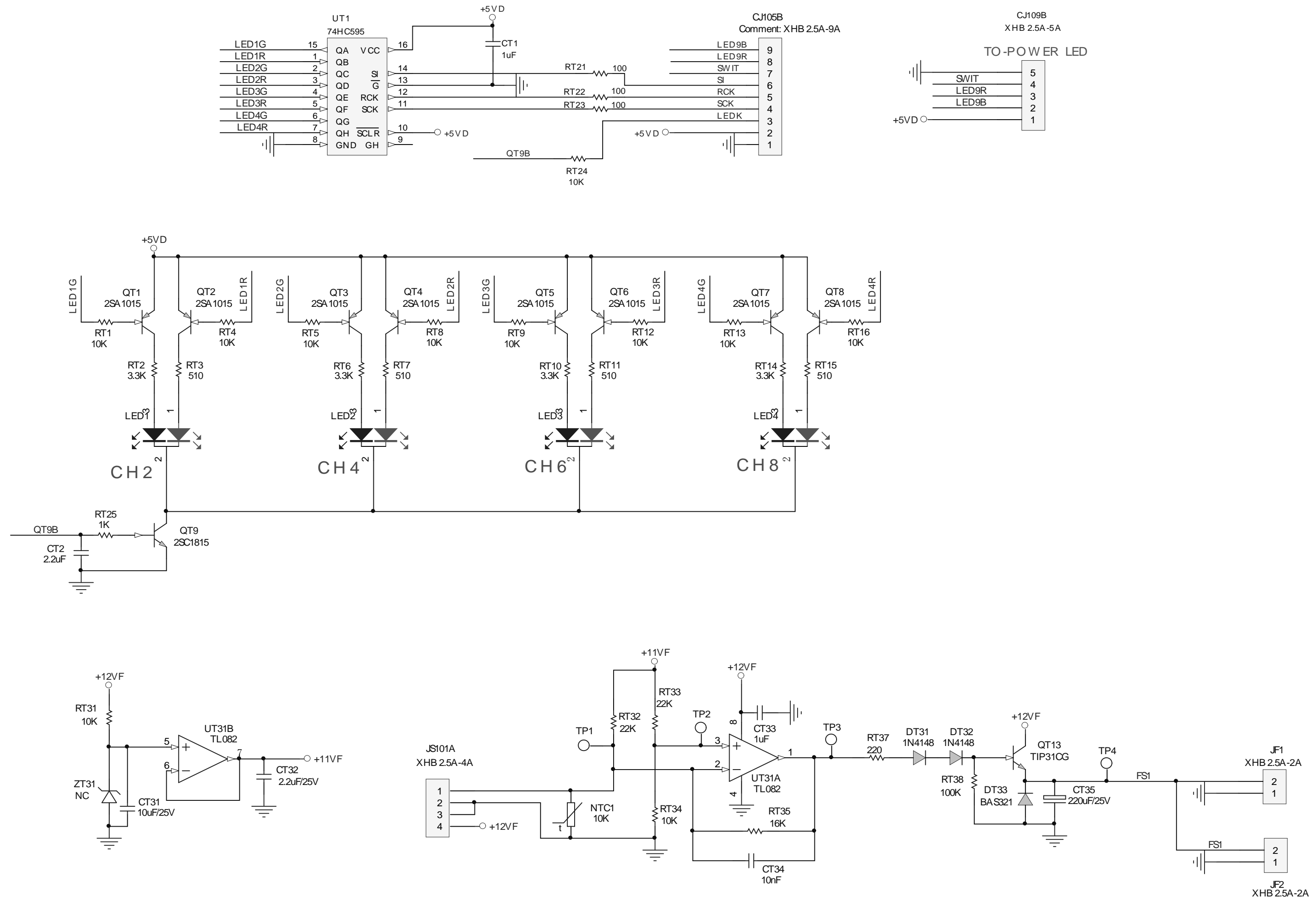
2.PRE AMP BOARD(4/4)



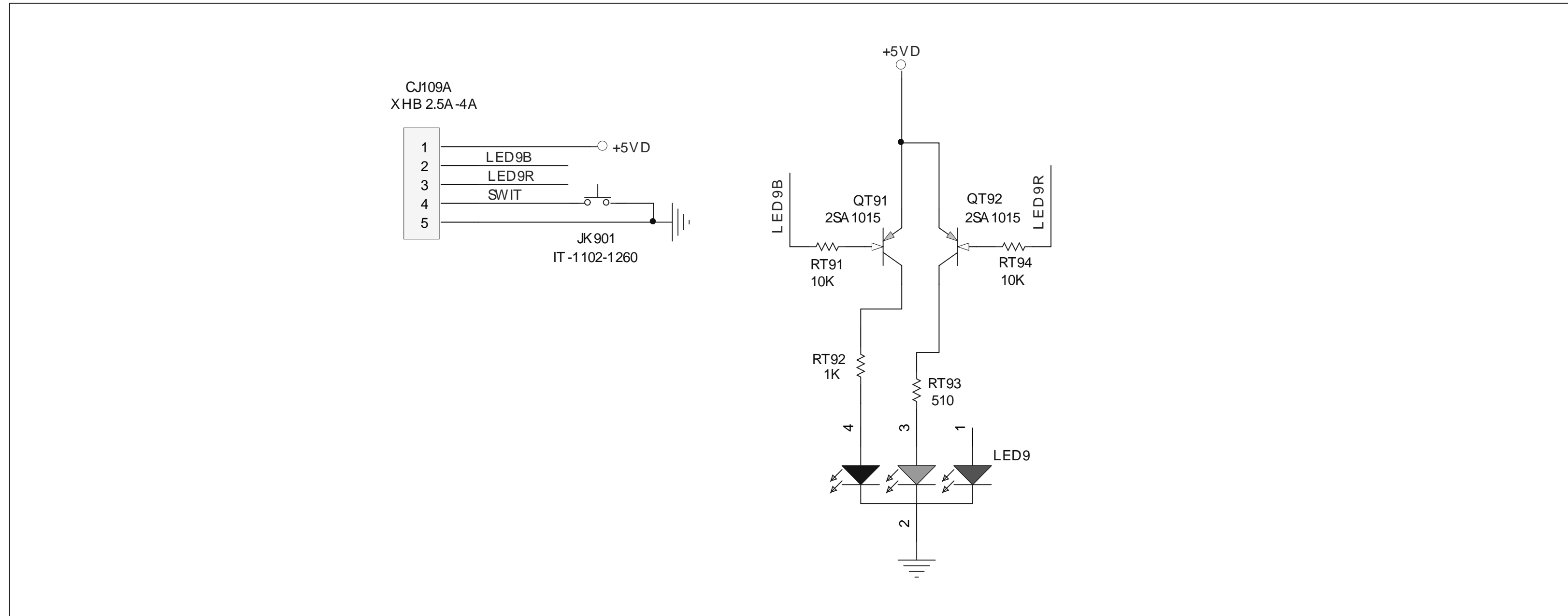
3.GLOBAL IN BOARD



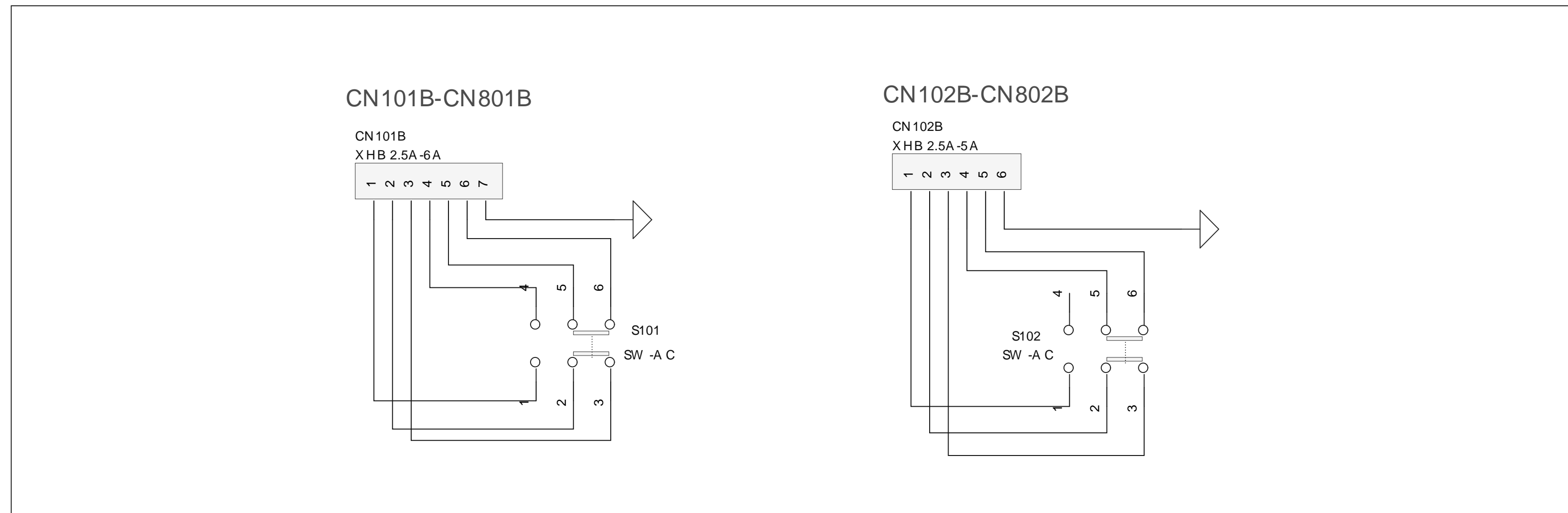
4.LED BOARD



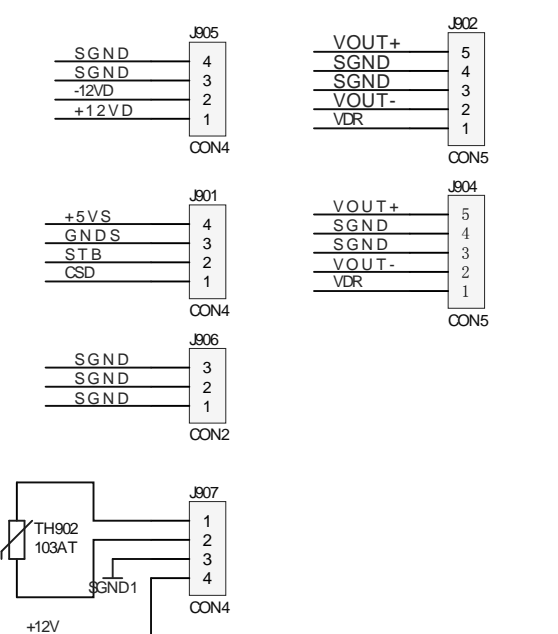
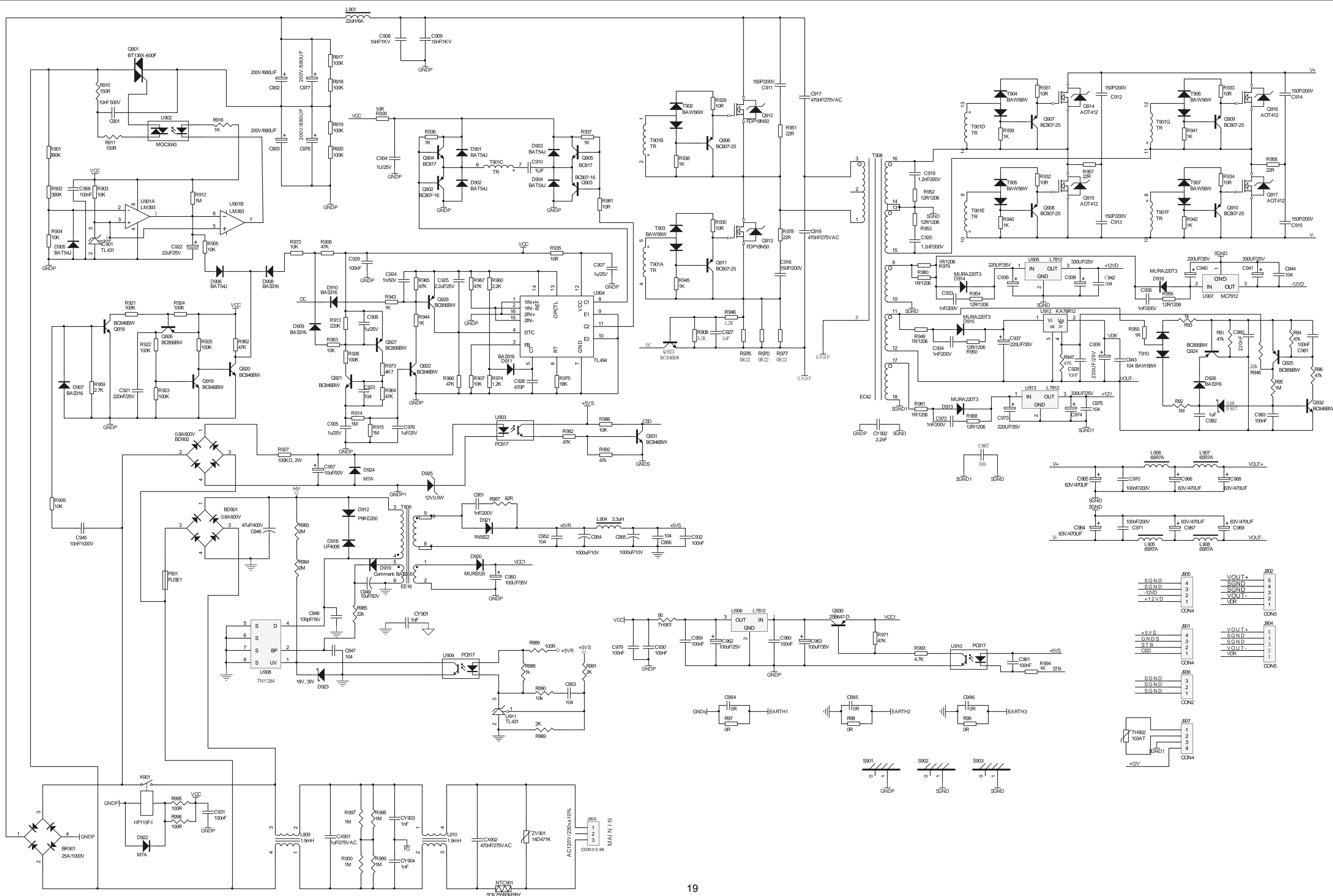
5.POWER LED BOARD



6.SWITCH BOARD

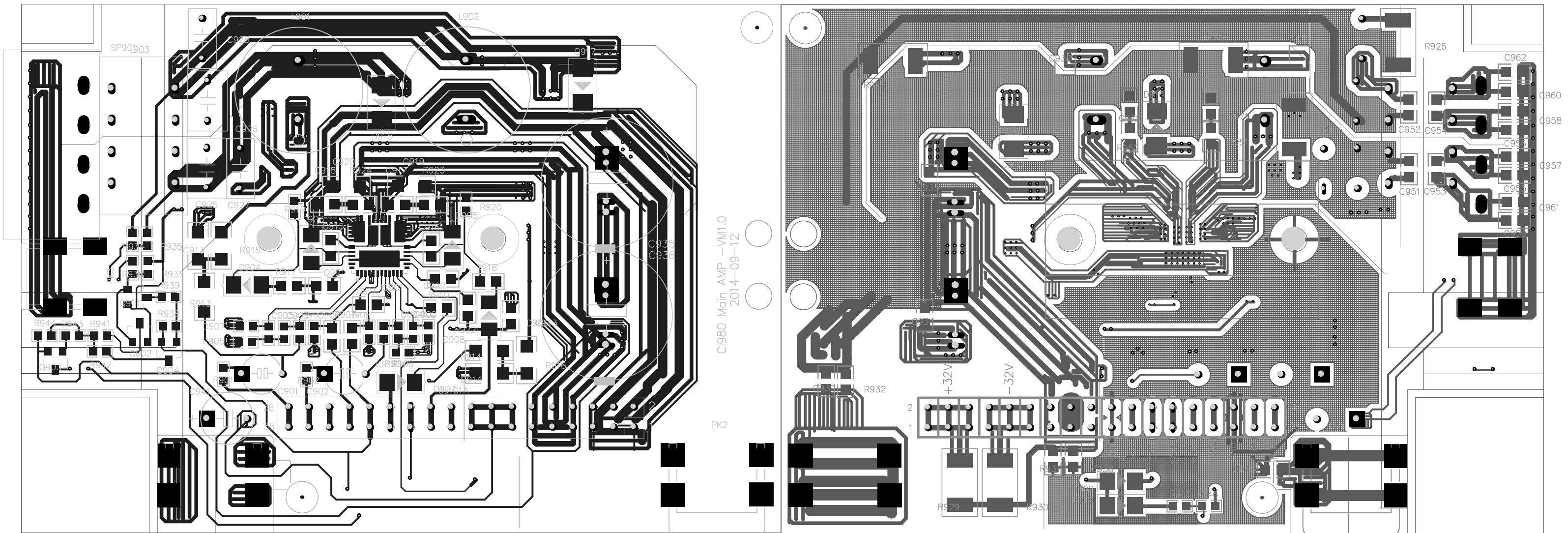


7.PSU BOARD



PCB LAYOUT

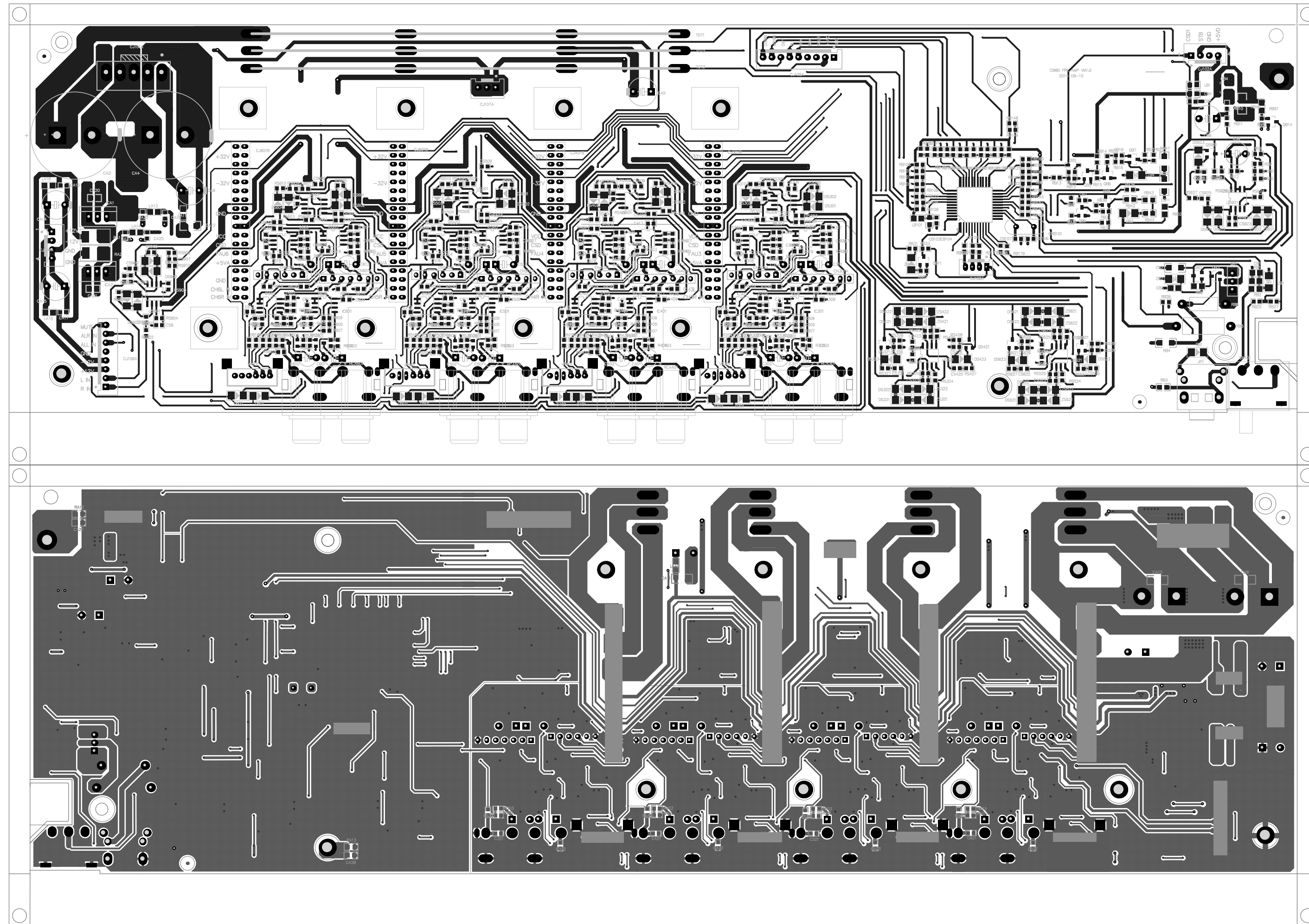
1.MAIN AMP BOARD



Top Layout

Bottom Layout

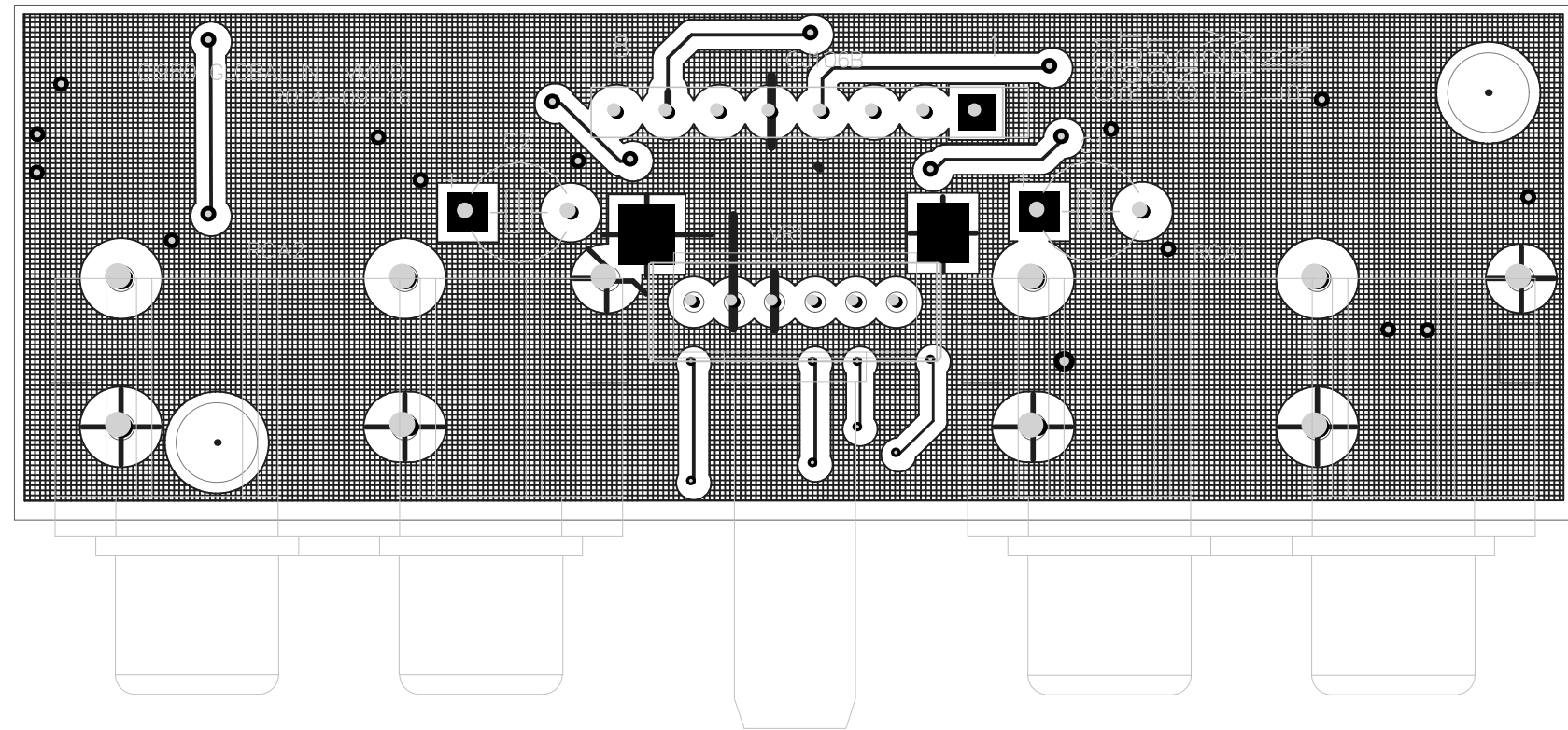
2.PRE AMP BOARD



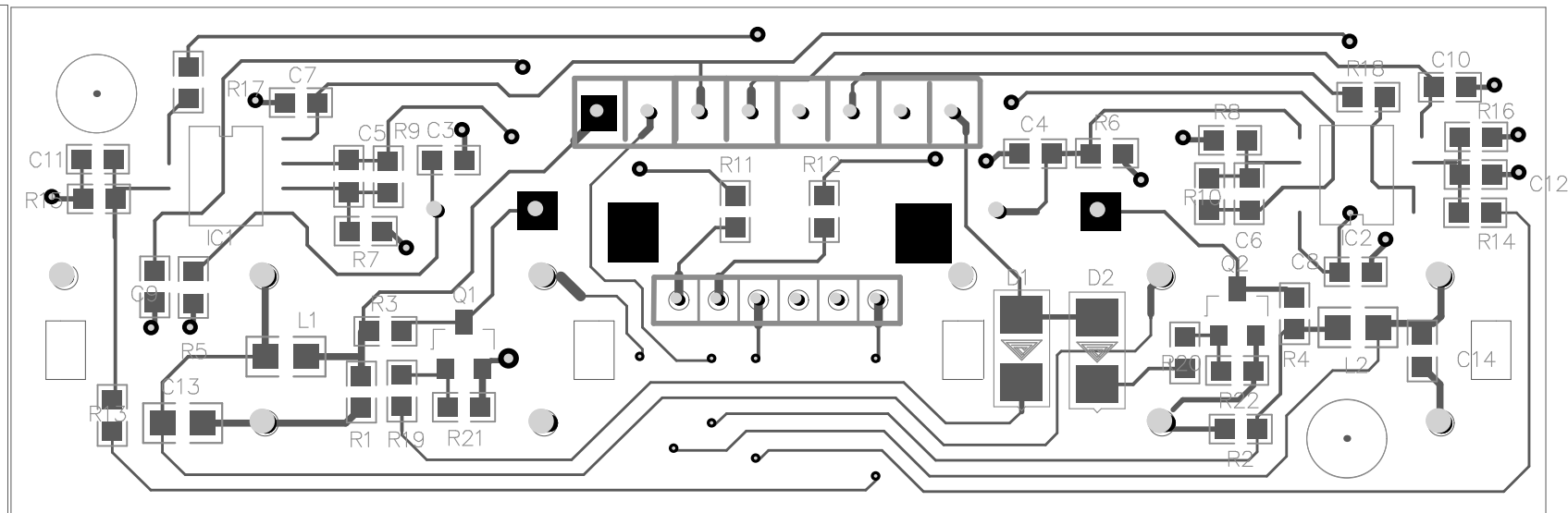
Top Layout

Bottom Layout

3.GLOBAL IN BOARD

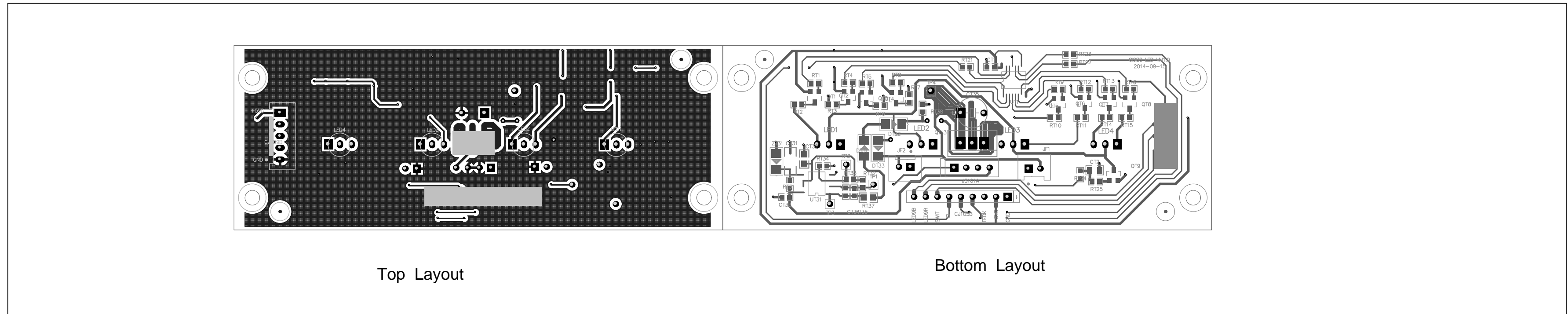


Top Layout

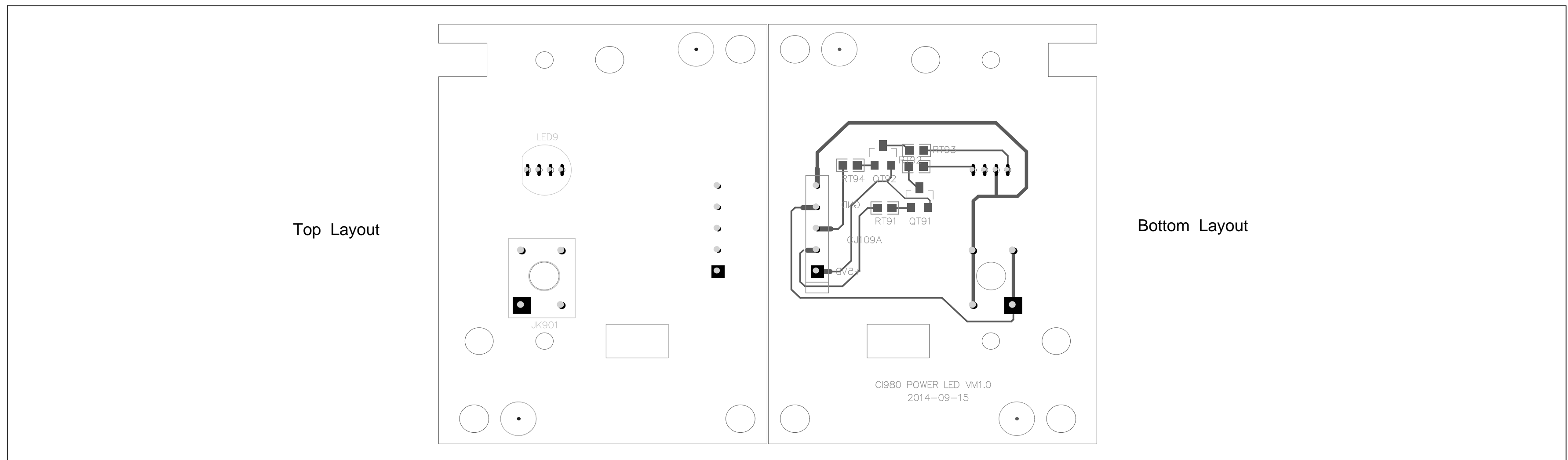


Bottom Layout

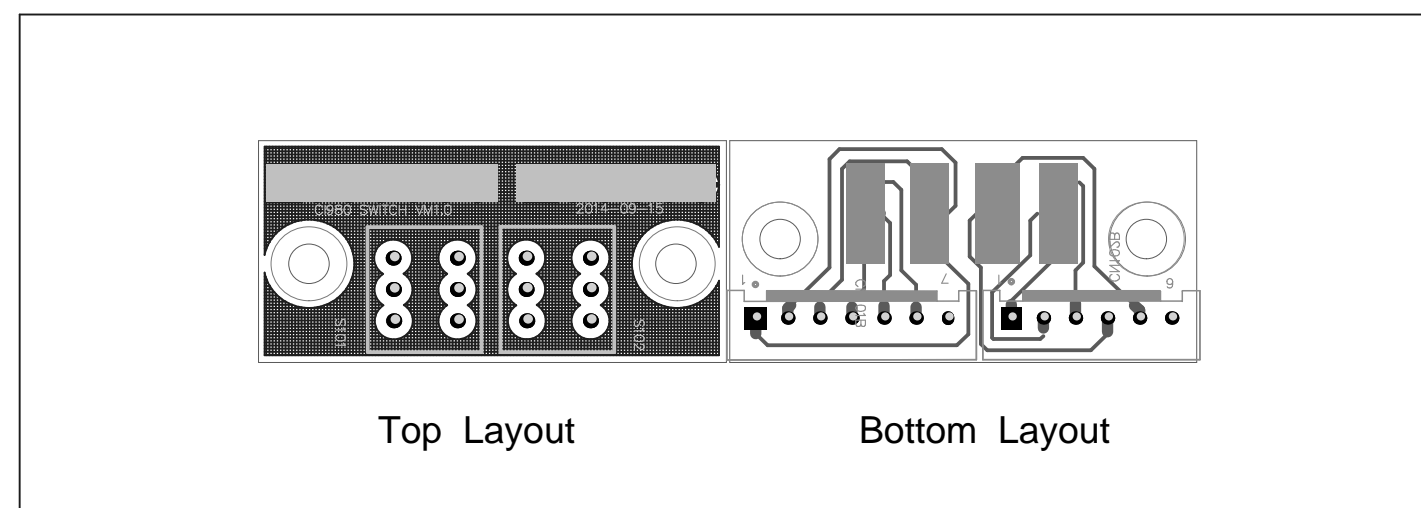
4.LED BOARD



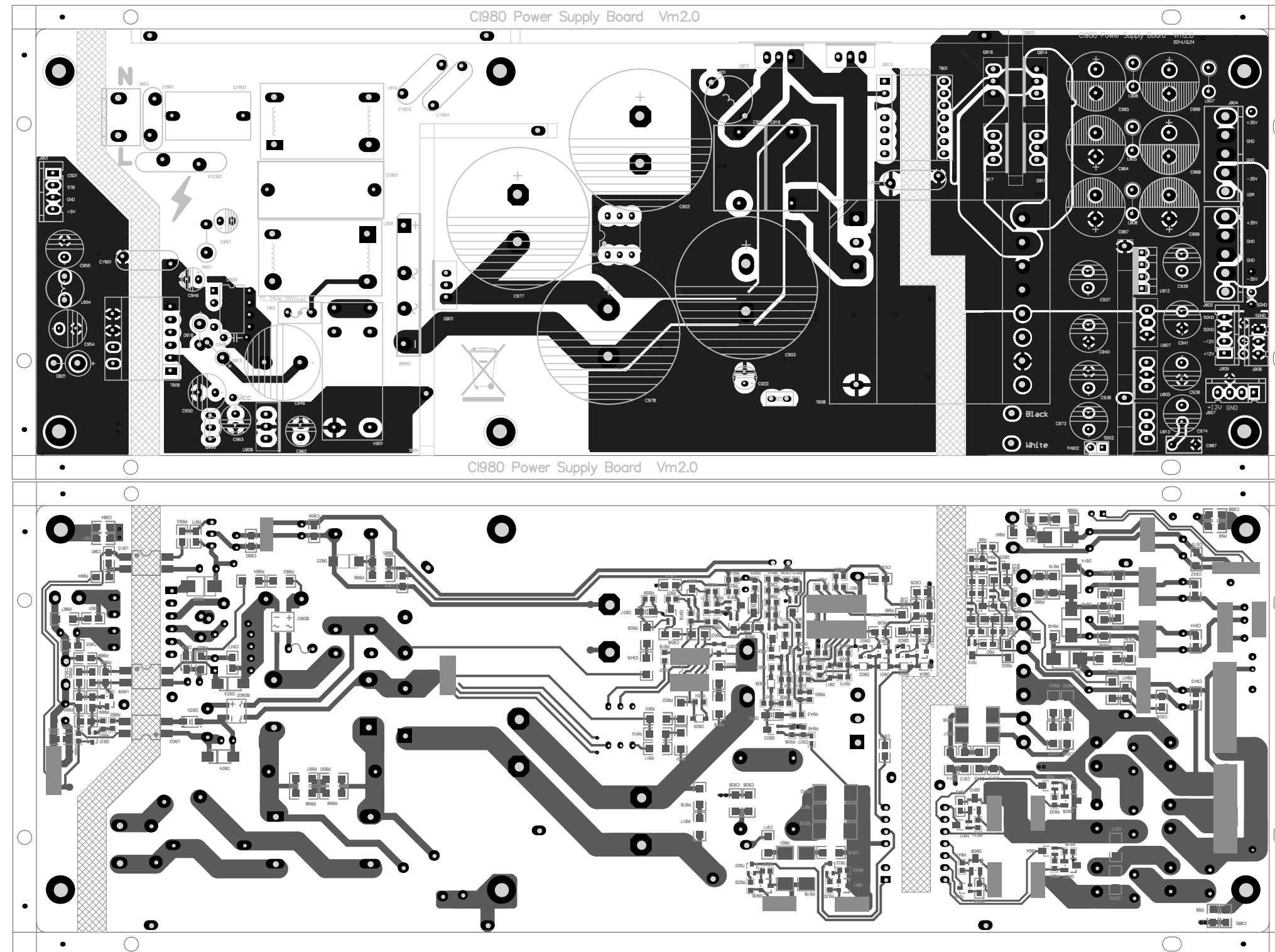
5.POWER LED BOARD



6.SWITCH BOARD



7.PSU BOARD



Top Layout

Bottom Layout

ELECTRICAL PARTS LIST

PCB-1:MAIN AMP BOARD			
	PART NO.		DESCRIPTION
PCB INFO			
	01-29801-01	Main AMP BOARD	
	02-29801-01	Main AMP BOARD	SMT
	A16-29801-23	Main AMP PCB	VM2.1, FR-4,1.6mm,2Layers,2Oz,,TG130
	A16-29810-23	Main AMP PCB	2->1, VM2.1,FR-4,1.6mm 2Layers,2Oz,,TG130,109x146mm
DIODES			
D902, D903, D904, D905, D906, D907, D919	33-44148-17	Switch Diode	1N4148W-FDICT
D915, D916, D917, D918	33-20120-01	DIODE SMD	MURS120T3G
TRANSISTORS			
Q902,Q904	31-05401-01	Transistor	MMBT5401LT1G, SOT-23
Q901,Q903	31-05551-01	Transistor	MMBT5551LT1G, SOT-23
IC			
IC901	03-04302-01	Digital AMP	IR4302MTRPBF
RESISTOR			
R905, R906	07-96200-00	Chip Resistor	620Ω, 1/10W, 1%
R936	07-91001-00	Chip Resistor	1KΩ,0603,1/10W,±1%,RC0603FR-071KL
R903, R904	07-92701-00	Chip Resistor	2K7Ω, 1/10W, 1%
R901, R902	07-93301-00	Chip Resistor	3K3Ω, 1/10W, 1%
R937, R938, R943	07-91002-00	Chip Resistor	10KΩ,0603,1/10W,±1%,RC0603FR-0710KL
R934, R935, R941, R942, R944, R945	07-94702-00	Chip Resistor	47KΩ, 1/10W, 1%
R946	07-91003-00	Chip Resistor	100KΩ,0603,1/10W,±1%,RC0603FR-07100KL
R919, R920, R939	07-93302-00	Chip Resistor	33KΩ, 1/10W, 1%
R923, R924	07-90109-01	Chip Resistor	1Ω,0805,1/8W,±5%
R917, R918, R922	07-94708-01	Chip Resistor	4.7Ω, 1/8W, 1%
R907, R908	07-91009-01	Chip Resistor	10Ω, 1/8W, 1%
R951 R952	07-91809-01	Chip Resistor	18Ω,0805,1/8W,±1%,RC0805FR-0718RL
R931,R932	07-92209-01	Chip Resistor	22Ω,0805,1/8W,±1%,RC0805FR-0722RL
R910	07-91000-01	Chip Resistor	100Ω,0805,1/8W,±1%,RC0805FR-07100RL
R915, R916	07-91001-02	Chip Resistor	1KΩ, 1/4W, 1%
R913, R914	07-94752-02	Chip Resistor	47.5KΩ,1206,1/4W,±1%,RC1206FR-0747K5L
R929, R930	07-94751-06	Chip Resistor	4.75KΩ,2512, 1W, 1%
R925, R926	07-91009-06	Chip Resistor	10Ω, 1W, 1%
R927, R928	07-90222-06	Chip Resistor	2K2Ω, 1W, 5%
CAPACTIOR			
C907, C908	26-10251-10	Ceramic Capacitor SMD	1nJ,50V,0603,NPO,C1608C0G1H102JT
C903, C904, C905, C906	26-22251-20	Ceramic Chip Capacitor	2.2nJ,50V,0603,COG,GRM1885C1H222JA01D
C903, C904, C905, C906	or 26-22251-10	Ceramic Capacitor SMD	2n2J,50V,0603,NPO
C912	26-22511-20	Ceramic Chip Capacitor	2.2uK,16V,0603,X7R
C909, C910	26-10611-10	Ceramic Capacitor SMD	10uK,10V,0603,X7R
C971 C972	26-47012-01	Ceramic Chip Capacitor	47PJ,100V,0805,NPO
C921 C943	26-47511-01	Ceramic Capacitor SMD	4.7uK,16V,X5R,0805,C2012X5R1C475K
C911, C922	26-10611-21	Ceramic Capacitor SMD	10uK,16V,0805,X5R,C2012X5R1C106KT
C931 C932	26-47212-01	Ceramic Capacitor SMD	4.7nJ,100V,0805,NPO,C2012C0G2A472J
C938,C939, C945	26-10451-11	Ceramic Capacitor SMD	100nK,50V,0805,X7R,C2012X7R1H104KT
C915, C916, C917, C918, C933, C934	26-10412-01	Ceramic Capacitor SMD	100nFK,100V,0805,X7R
C919, C920	26-10422-02	Ceramic Capacitor SMD	100nK,250V,1206,X7R,C3216X7R2E104KT
C913, C914	26-15122-02	Ceramic Capacitor SMD	150pF, 2%, 200V, NPO
C951 C952 C953 C954 C955 C956 C959 C960	26-22212-21	Ceramic Chip Capacitor	2200pF,100V,NPO,0805
C927, C928	25-10461-00	Metallized Polyester Film Capacitor	CL23B-63V-104KR, C241J104K20A201
C925, C926	25-47461-00	Metallized Polyester Film Capacitor	CL23B-63V-474JR, C241J474J20A201

C901, C902	06-10051-09	ALU Electrolytic Capacitor	CD71H,10uF,50V,9.5uF~10uF,105°C,F5.0
C901, C902	or 06-10051-11	Bi-polarized Alu Electrolytic Capacitor	CD71H,10uF,50V,±20%,105°C,F5.0
C941	06-10121-02	Alu Electrolytic Capacitor	CD263(X),100uF,25V,±20%,105°C,F5.0
C935, C936	06-22151-03	Alu Electrolytic Capacitor	CD281 220UF/50V 10X16MM
C935, C936	or 06-22151-04	Alu Electrolytic Capacitor	CD281 220UF/50V H<15mm
INDUCTOR			
L901, L902	08-01220-01	INDUCTANCE	JP1617-220K,22uH±10%
L903	08-02700-00	Common Mode Choke	T16*9*5-70uH
CONNECTORS			
CJ101A	13-12536-05	2.54 connector	2.54mm pitch, 2*18Pin, CNT-M254-2*18-GD-6/3/1.5-N
CJ101A	or 13-12536-00	CONNECTORS	JS-1107-36,2.54mm pitch,36pin,gold plating
SP901	13-25004-01	Terminal Block	OQ045401000AG/90D-5.08-4P
	70-420009-1	AMP Heat sink	AL 6063
Used for IR4302	78-369001-0	Insulating pad	HF300P Green,38x21mm,T=0.102mm
PK1,PK2	67-218006-0	PCB Terminal	SECC-N5,T=1mm,Sn plating
	67-114001-0	PCB Terminal	HS40-360.1-B009V1-M002
FASTENERS			
	61-373508-0	Machine Screw	M3x8, nickel plating
PCB-2:PRE AMP BOARD			
	PART NO.		DESCRIPTION
	PCB INFO		
	01-29802-01	PRE AMP BOARD	
	02-29802-01	PRE AMP BOARD	SMT
	A16-29802-23	PRE AMP PCB	VM2.1,FR-4,1.6mm ,2Layers,2Oz,,TG130,TG130,374 x132mm
DIODES			
DS301, DS302, DS303, DS304, DS321, DS322, DS323, DS401, DS402, DS403, DS404, DS421, DS422, DS423, DS501, DS502, DS503, DS504, DS521, DS522, DS523, DS601, DS602, DS603, DS604, DS621, DS622, DS623, DS901, DS902, DS903, DS904, DS921, DS922, DS923, DB1, D301, D302, D401, D402, D501, D502, D601, D602, DB3	33-44148-17	Switch Diode	1N4148
ZS321, ZS322, ZS421, ZS422, ZS521, ZS522, ZS621, ZS622, ZS921, ZS922	33-13609-03	Zener Diode	BZT52C3V6,3.6V,350mW
ZB1	33-15109-12	Zener Diode	5.1V,0.5W,5%,MMSZ5231B-7-F
DB5, DB6	33-20520-01	Schottky Barrier Diode	B0520LW
ZB4	33-15109-12	Switch Diode	5.1V,0.5W,5%,MMSZ5231B-7-F
ZB2	33-11300-07	Zener Diode	13V 350mW BZT52C13
ZB3	33-13900-03	Zener Diode	BZT52C39,350mW,SOD123
TRANSISTORS			
Q301, Q302, Q401, Q402, Q501, Q502, Q601, Q602, QS321, QS421, QS521, QS621, QS921, QB2, QB3, QB4, QB5, QB7, QB9, QB14	31-01815-03	Transistor	C1815 SOT23
QB6, QB8	31-01015-03	Transistor	A1015 SOT23
QB11	31-05551-01	Transistor	MMBT5551LT1G, SOT-23
IC			
US301, US321, US401, US501, US521, US601, US901, US921	03-06002-01	DUAL OP-AMP	MCP6002T-E/SN
IC301, IC302, IC303, IC304, IC401, IC402, IC403, IC404, IC501, IC502, IC503, IC504, IC601, IC602, IC603, IC604	03-04558-01	Dual OPAMP	MC4558/NJM4558M/RC4558DR,SO-8/DMP8
UB101	03-00162-01	MCU	STC12C5A16S2-35I-LQFP44
ICA1	03-07805-00	3-Terminal Regulator	L7805CV
ICA1	or 03-07805-07	3-Terminal Regulator	KA7805

ICA2	03-07905-02	3-Terminal Regulator	L7905CV, TO220
ICA2	or 03-07905-04	3-Terminal Regulator	KA7905
	RESISTOR		
RS426, RS626, RS926	07-92209-00	Chip Resistor	22Ω,0603,1/10W,±1%,RC0603FR-0722RL
RB101, RB102, RB103, RB104, RB141, RB143, RB144, RB145, RB146, RB147, RB148, RB164, RB165, RB166, RB167, RB168, RB169, RB175, RB177, RB178, RB179,	07-91000-00	Chip Resistor	100Ω,0603,1/10W,±1%,RC0603FR-07100RL
R311, R312, R317, R318, R325, R326, R411, R412, R417, R418, R425, R426, R511, R512, R517, R518, R525, R526, R611, R612, R617, R618, R625, R626	07-92200-00	Chip Resistor	220Ω,0603,1/10W,±1%,RC0603FR-07220RL
RB21	07-94700-00	Chip Resistor	470Ω,0603,1/10W,±1%,RC0603FR-07470RL
RB10, RB174, R313, R314, R413, R414, R513, R514, R613, R614, RB25	07-91001-00	Chip Resistor	1KΩ,0603,1/10W,±1%,RC0603FR-071K1L
R303, R304, R403, R404, R503, R504, R603, R604	07-93301-00	Chip Resistor	3.3KΩ,0603,1/10W,±1%,RC0603FR-073K3L
RB53	07-94701-00	Chip Resistor	4.7KΩ,0603,1/10W,±1%,RC0603FR-074K7L
RB18	07-95101-00	Chip Resistor	5.1KΩ,0603,1/10W,±1%,RC0603FR-075K1L
R307, R308, R309, R310, R319, RB11, R320, R321, R322, R329, R330, R331, R332, R335, R336, R407, R408, R409, R410, R419, R420, R421, R422, R429, R430, R431, R432, R435, R436, R507, R508, R509, R510, R519, R520, R521, R522, R529, R530, R531, R532, R535, R536, R607, R608, R609, R610, R619, R620, R621, R622, R629, R630, R631, R632, R635, R636, RS303, RS304, RS309, RS310, RS324, RS327, RS403, RS404, RS409, RS410, RS424, RS427, RS503, RS504, RS509, RS510, RS524, RS527, RS603, RS604, RS609, RS610, RS624, RS627, RS903, RS904, RS909, RS910, RS924, RS927, RS12, RB9, RB13, RB14, RB15, RB16, RB26, RB31, RB33, RB35, RB36, RB37, RB38, RB106, RB107, RB108, RB109, RB121, RB122, RB123, RB124, RB125, RB127, RB142, RB149 RB23	07-91002-00	Chip Resistor	10KΩ,0603,1/10W,±1%,RC0603FR-0710K1L
R327, R328, R427, R428, R527, R528, R627, R628	M07-97871-00	Chip Resistor	7.87KΩ,0603,1/10W,±1%
RS9, RS10, RB19	07-92202-00	Chip Resistor	22KΩ,0603,1/10W,±1%,RC0603FR-0722K1L
R305, R306, R405, R406, R505, R506, R605, R606	07-93302-00	Chip Resistor	33KΩ,0603,1/10W,±1%,RC0603FR-0733K1L
RB12, RB32	07-94702-00	Chip Resistor	47KΩ,0603,1/10W,±1%,RC0603FR-0747K1L
R301, R302, R315, R316, R401, R402, R415, R416, R501, R502, R515, R516, R601, R602, R615, R616, RS301, RS302, RS305, RS306, RS401, RS402, RS405, RS406, RS501, RS502, RS505, RS506, RS601, RS602, RS605, RS606, RS901, RS902, RS905, RS906, RS328, RS428, RS528, RS628, RS928, RB22, RB41	07-91003-00	Chip Resistor	100KΩ,0603,1/10W,±1%,RC0603FR-07100K1L
RB39, RB27	07-91004-00	Chip Resistor	1MΩ,0603,1/10W,±1%,RC0603FR-071M1L
RS325, RS425, RS525, RS625, RS925	07-94704-00	Chip Resistor	4.7MΩ,0603,1/10W,±1%,RC0603FR-074M7L
RA12, RA13, RB3	07-92209-01	Chip Resistor	22Ω,0805,1/8W,±1%,RC0805FR-0722RL
RB42, RB43, RB44	07-91501-01	Chip Resistor	1.5KΩ,0805,1/8W,±1%,RC0805FR-071K5L
R947	07-93161-02	Chip Resistor	3.16KΩ,1206,1/4W,±1%,RC1206FR-073K16L
RB2	07-93301-01	Chip Resistor	3.3KΩ,0805,1/8W,±1%,RC0805FR-073K3L
RB6	07-96801-01	Chip Resistor	6.8KΩ,0805,1/8W,±1%,RC0805FR-076K8L
RB51	07-91002-01	Chip Resistor	10KΩ,0805,1/8W,±1%,RC0805FR-0710K1L
RB1	07-94702-01	Chip Resistor	47KΩ,0805,1/8W,±1%,RC0805FR-0747K1L
RB52	07-95602-01	Chip Resistor	56KΩ,0805,1/8W,±1%,RC0805FR-0756K1L
RB4	07-93011-02	Chip Resistor	3.01KΩ,1206,1/4W,±1%,RC1206FR-073K01L
RB46	07-92000-02	Chip Resistor	200Ω,1206,1/4W,±1%,RC1206FR-07200RL
RA1, RA2	07-90180-06	Chip Resistor	18Ω,2512,1W,±5%
RB8	07-30100-13	Metal Oxide Film Resistor	10Ω, 1W, 5%, Pitch=12.5mm
RB5	07-30221-01	Metal Oxide Film Resistor	220Ω, 1W, ±5%, Pitch=15mm,H=10mm
	CAPACITOR		
CS323, CS423, CS523, CS623, CS923	26-22051-00	Ceramic Chip Capacitor	22pJ,50V,0603,NPO
CB106, CB107	26-47051-00	Ceramic Chip Capacitor	47PJ,50V,0603,NPO

C305, C306, C315, C316, C405, C406, C415, C416, C505, C506, C515, C516, C605, C606, C615, C616	26-10151-00	Ceramic Chip Capacitor	100pJ,50V,0603,NPO,C1608C0G1H101JT
C321, C421, C521, C621, C322, C422, C522, C622	26-22151-00	Ceramic Chip Capacitor	220PJ,50V,0603,NPO
C303, C304, C307, C308, C403, C404, C407, C408, C503, C504, C507, C508, C603, C604, C607, C608	26-47151-00	Ceramic Chip Capacitor	470pJ,50V,0603,NPO
C309, C310, C311, C312, C317, C318, C319, C320, C409, C410, C411, C412, C417, C418, C419, C420, C509, C510, C511, C512, C517, C518, C519, C520, C609, C610, C611, C612, C617, C618, C619, C620, CS8, CS325, CS425, CS525, CS625, CS925, CB5, CB104, CA16, CA17, CA24, CA25	26-10421-10	Ceramic Capacitor SMD	100nK,25V 0603,X7R
CS326, CS426, CS526, CS626, CS926	26-47411-10	Ceramic Chip Capacitor	470nK,16V,0603,X7R
CS301, CS302, CS307, CS309, CS401, CS402, CS407, CS409, CS501, CS502, CS507, CS509, CS601, CS602, CS607, CS609, CS901, CS902, CS907, CS909, CS10, CB7	26-10511-20	Ceramic Capacitor SMD	1uK,16V,0603,X7R,C1608X7R1C105K
CA22, CA23, CS424, CS624, CS924	26-10611-10	Ceramic Capacitor SMD	10uK,10V,0603,X7R
CA27 CA28	26-10451-11	Ceramic Capacitor SMD	100nK,50V,0805,X7R,C2012X7R1H104KT
CB3	26-10521-01	Ceramic Capacitor SMD	1uK,25V,0805,X7R
CA20, CA21, CB1, CB4, CB103	26-10611-21	Ceramic Capacitor SMD	10uK,16V,0805,X5R,C2012X5R1C106KT
CB2	26-10551-02	Ceramic Capacitor SMD	1uFM,50V,1206,X7R
CA8, CA10, CA11, CA12	26-10412-02	Ceramic Capacitor SMD	100nK,100V,1206,X7R
CB11	26-10611-22	Ceramic Chip Capacitor	10uK,16V,1206,X7R,C3216X7R1C106K
C301, C302, C313, C314, C401, C402, C413, C414, C501, C502, C513, C514, C601, C602, C613, C614	06-10051-01	ALU Electrolytic Capacitor	CD263(X),10uF,50V,±20%,105°C,F5.0
CB6	06-22021-01	ALU Electrolytic Capacitor	CD263(X),22uF,25V,±20%,F5.0
CA14, CA15, CS9	06-10121-02	ALU Electrolytic Capacitor	CD263(X),100uF,25V,±20%,105°C,F5.0
CA5, CA6	06-10151-04	ALU Electrolytic Capacitor	CD263(X),100uF,50V,±20%,105°C,F5.0
CA2, CA4	06-68251-01	ALU Electrolytic Capacitor	LSG 6800uF,50V,105°C, 2000Hours, 25*40mm,Pitch=10mm,LSG682M1H-2540
	INDUCTOR		
LB1, LB101, LA11, LA12, LA13,LA14,LA15, LA16	08-04102-11	Ferrite Bead SMD	74279205 1000ohm@100MHz
	TRANSISTORS		
QB1	31-02690-00	Transistor	KSC2690AYS TO-126
	CRYSTAL		
CRB101	04-11102-00	Crystal	11.0592MHz,CL=15pF,HC-49U/S
CRB101	75-040001-0	Crystal Washer	QW-3
	POT		
VR301, VR401, VR501, VR601	09-01503-02	Variable Resistor	R1121GOXH1G503YJ0000
	CONNECTORS		
CJ108A	13-22004-00	Connector Socket	PH 2.0A-4A
CJ107A	13-22503-00	Connector Socket	XHB 2.5A-3A
CJ102A, CJ104A	13-22504-00	Connector	XHB 2.5A-4A
CJ106A	13-22508-00	CONNECTORS	XHB 2.5A-8A
CJ105A	13-22509-00	CONNECTORS	XHB 2.5A-9A
CJ101A	13-23905-00	Connector Socket	VH 3.96A-5A
CN302A, CN402A, CN502A, CN602A	14-29806-00	Cable	UL2547#26AWG,L=70mm
CN301A, CN401A, CN501A, CN601A	14-29807-00	Cable	UL2547#26AWG,L=70mm,
CJ301B, CJ401B, CJ501B, CJ601B	13-22536-01	Connector	2.54mm Pitch,2*18pin,CNT-F254-2*18-GS-850/3.0-N
RCA301, RCA401, RCA501, RCA601	17-01004-36	4RCA	AV4-8.4-13B, gold plating
SW101	11-05102-07	Side Switch	TS-14P-A1-2-Q-H

JK1	17-02002-00	Phone Jack	SCJ351P00XS0B00
	FASTENERS		
RCA(2)	61-023208-0	Self Tapping Screw	BTB3x8
TOT1 TOT2 TOT3	69-396006-0	Busbar	T=1mm
PCB-3:GLOBAL IN BOARD			
	PART NO.		DESCRIPTION
	PCB INFO		
	01-29803-01	GLOBAL IN BOARD	
	02-29803-01	GLOBAL IN BOARD	SMT
	A16-29803-22	GLOBAL PCB	VM1.0,FR-4,1.6mm , 2Layers,1Oz, TG130
	A16-29830-22	GLOBAL PCB ASSM	4->1,VM2.0,FR-4,1.6mm , 2Layers,1Oz, TG130,166x76mm
	DIODES		
D1, D2	33-44148-17	Switch Diode	1N4148
	IC		
IC1, IC2	03-04558-01	Dual OPAMP	RC4558DR
	TRANSISTORS		
Q1, Q2	31-01815-03	Transistor	C1815 SOT23
	RESISTOR		
R17, R18	07-94709-00	Chip resistor	47Ω,0603,1/10W,±1%,RC0603FR-0747RLT
R11, R12	07-92200-00	Chip Resistor	220Ω,0603,1/10W,±1%,RC0603FR-07220RL
R13, R14	07-91001-00	Chip Resistor	1KΩ,0603,1/10W,±1%,RC0603FR-071KL
R3, R4	07-93301-00	Chip Resistor	3.3KΩ,0603,1/10W,±1%,RC0603FR-073K3L
R7, R8, R9, R10, R19, R20	07-91002-00	Chip Resistor	10KΩ,0603,1/10W,±1%,RC0603FR-0710KL
R5, R6	07-93302-00	Chip Resistor	33KΩ,0603,1/10W,±1%,RC0603FR-0733KL
R1, R2, R15, R16	07-91003-00	Chip Resistor	100KΩ,0603,1/10W,±1%,RC0603FR-07100KL
	CAPACIOR		
C13 C14	26-22151-00	Ceramic Chip Capacitor	220PJ,50V,0603,NPO
C5, C6	26-33051-00	Ceramic Chip Capacitor	33pJ,50V,0603,NPO,C1608C0G1H 330JT
C3, C4, C11, C12	26-47151-00	Ceramic Chip Capacitor	470pJ,50V,0603,NPO
C7, C8, C9, C10	26-10421-10	Ceramic Capacitor SMD	100nK,25V 0603,X7R
C1, C2	06-10051-01	ALU Electrolytic Capacitor	CD263(x), 10uF/50V, 20%,
	INDUCTOR		
L1, L2	08-04102-11	Ferrite Bead SMD	74279205 1000ohm@100MHz
	POT		
VR1	09-01503-02	Variable Resistor	R1121GOXH1G503YJ0000
	CONNECTORS		
CJ106B	14-29808-00	Cable	UL2468#26AWG*8P,L=80mm
RCA1, RCA2	17-01002-46	RCA	AV2-8.4-14PB2, gold plating
PCB-4:LED BOARD			
	PART NO.		DESCRIPTION
	PCB INFO		
	01-29804-01	LED BOARD	
	02-29804-01	LED BOARD	SMT
	A16-29804-22	LED PCB	VM2.0,FR-4,1.6mm ,2Layers,1Oz, TG130
	A16-29840-22	LED PCB ASSM	4->1,VM2.0,FR-4,1.6mm ,2Layers,1Oz, TG130,118x172mm
	IC		
UT1	03-00595-05	shift register	74HC595PW,118
UT31	03-00082-01	Dual OPAMP	TL082BCDR
	DIODES		
DT31, DT32	33-44148-17	Switch Diode	1N4148
DT33	33-40321-00	Schottky Barrier Diode	BAS321
LED1, LED2, LED3, LED4	33-50326-04	φ3 RED BLU LED Common Cathode	φ3,Red Blue,BL-BUBB5201-YJ-T05
	TRANSISTORS		
QT1, QT2, QT3, QT4, QT5, QT6, QT7, QT8	31-01015-03	Transistor	A1015 SOT23
QT9	31-01815-03	Transistor	C1815 SOT23
QT13	31-00031-00	Transistor	TIP31CG

	RESISTOR		
RT21, RT22, RT23	07-91000-00	Chip Resistor	100Ω,0603,1/10W,±1%,RC0603FR-07100RL
RT3, RT7, RT11, RT15	07-95100-00	Chip Resistor	510Ω,0603,1/10W,±1%,RC0603FR-07510RL
RT25	07-91001-00	Chip Resistor	1KΩ,0603,1/10W,±1%,RC0603FR-071KL
RT2, RT6, RT10, RT14	07-95101-00	Chip Resistor	5.1KΩ,0603,1/10W,±1%,RC0603FR-075K1L
RT35	07-91602-00	Chip Resistor	16KΩ,0603,1/10W,±1%,RC0603FR-0716KL
RT1, RT4, RT5, RT8, RT9, RT12, RT13, RT16, RT24, RT31, RT34	07-91002-00	Chip Resistor	10KΩ,0603,1/10W,±1%,RC0603FR-0722KL
RT32 RT33	07-92202-00	Chip Resistor	22KΩ,0603,1/10W,±1%,RC0603FR-0722KL
RT38	07-91003-00	Chip Resistor	100KΩ,0603,1/10W,±1%,RC0603FR-07100KL
RT17	07-92209-01	Chip Resistor	22Ω,0805,1/8W,±1%,RC0805FR-0722RL
RT37	07-92200-01	Chip Resistor	220Ω,0805,1/8W,±1%,RC0805FR-07220RL
	CAPACITOR		
CT3	26-10151-00	Ceramic Chip Capacitor	100pJ,50V,0603,NPO,C1608C0G1H101JT
CT34	26-10351-00	Ceramic Capacitor SMD	10nK,50V,0603,X7R,C2012X7R1H103KT
CT4,CT5	26-10451-11	Ceramic Chip Capacitor	100nK,50V,0805,X7R,C2012X7R1H104KT
CT1, CT33	26-10511-20	Ceramic Capacitor SMD	1uK,16V,0603,X7R,C1608X7R1C105K
CT2, CT32	26-22521-21	Ceramic Capacitor SMD	2.2uF,±10%,25V,X7R,0805,GRM21BR71E225KA
CT31	26-10621-12	Ceramic Capacitor SMD	10uF, 25V, X5R, 1206, C3216X5R1E106KT
CT35	06-22121-03	ALU Electrolytic Capacitor	CD263(X),220uF,25V,±20%,F5.0
	CONNECTORS		
JF1, JF2	13-22502-00	Connector	XHB 2.5A-2A
JS101A	14-29804-00	Connector	UL2468#26AWG*4P,L=220mm
CJ109B	13-22505-00	Connector	XHB 2.5A-5A
CJ105B	14-29809-00	Cable	UL2468#26AWG*9P, L=530mm
PCB-5:POWER LED BOARD			
	PART NO.		DESCRIPTION
	PCB INFO		
	01-29805-01	POWER LED BOARD	
	02-29805-01	POWER LED BOARD	SMT
	A16-29805-22	POWER LED PCB	VM2.0,FR-4,1.6mm,2Layers,1Oz, TG130
	A16-29850-22	POWER LED PCB ASSM	8->1,VM2.0,FR-4,1.6mm,2Layers,1Oz, TG130,160x112mm
	TRANSISTORS		
QT91, QT92	31-01015-03	Transistor	A1015 SOT23
	RESISTOR		
RT93	07-95100-00	Chip Resistor	510Ω,0603,1/10W,±1%,RC0603FR-07510RL
RT92	07-91001-00	Chip Resistor	1KΩ,0603,1/10W,±1%,RC0603FR-071KL
RT91, RT94	07-91002-00	Chip Resistor	10KΩ,0603,1/10W,±1%,RC0603FR-0722KL
	DIODE		
LED9	33-50565-12	LED	Blue Orange Red, BL-BB3JCUB2C4V-1-10F ,Blue wavelengths :462~467nm
	CONNECTORS		
CJ109A	14-29805-00	Cable	UL2468#26AWG*5P,L=200mm
JK901	11-04101-05		IT-1102A-1160
	79-272009-0	SPONGE	L180*W30*T5mm,Black
PCB-6:SWITCH BOARD			
	PART NO.		DESCRIPTION
	PCB INFO		
	01-29806-00	SWITCH BOARD	

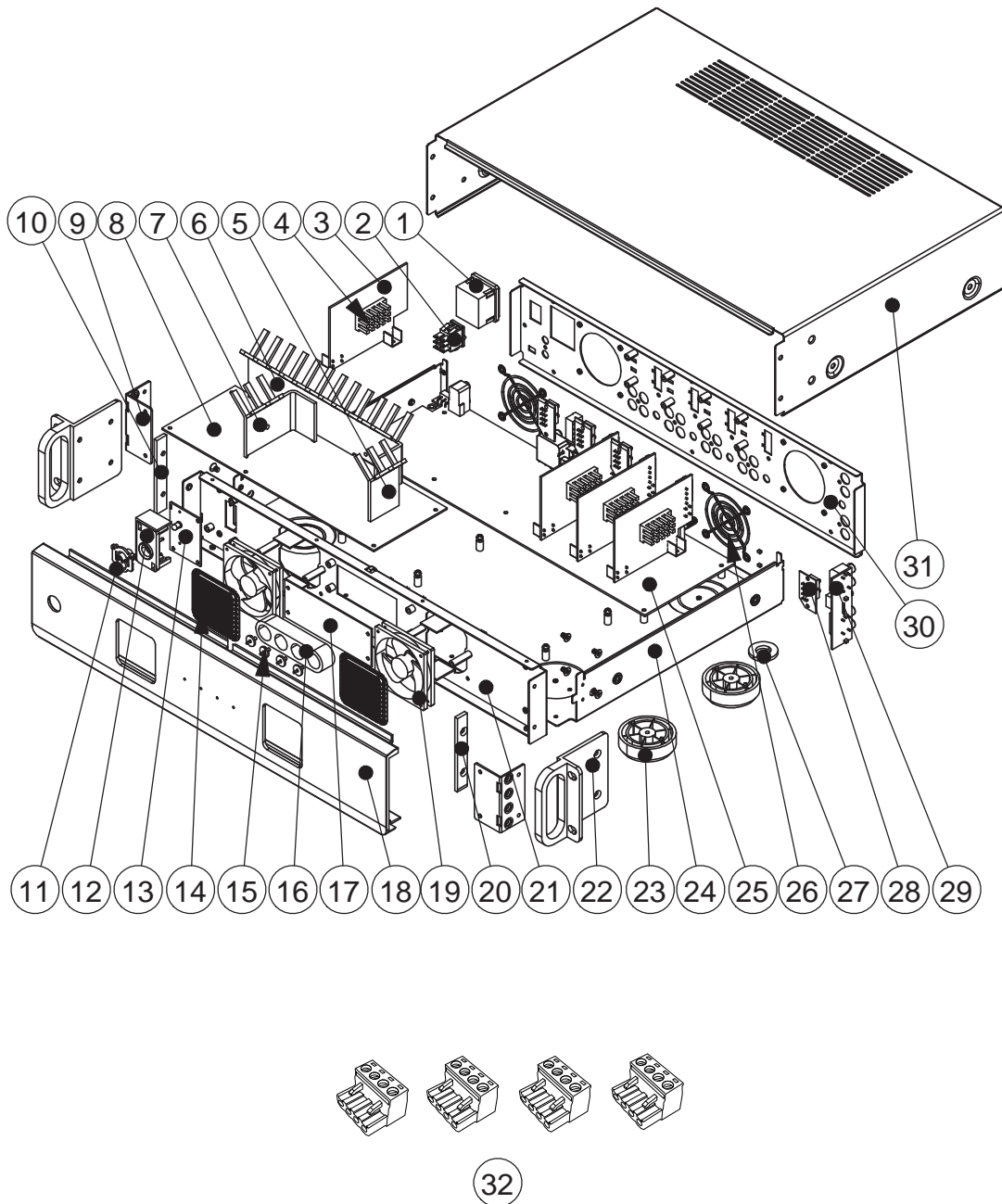
	A16-29806-21	Power switch PCB	VM1.0,FR-4,1.6mm ,2Layers,1Oz, TG130
	A16-29860-21	Power switch PCB ASSM	20->1,VM1.0,FR-4,1.6mm ,2Layers,1Oz, TG130,102x160mm
	CONNECTORS		
CN102B	13-22506-00	CONNECTORS	XHB 2.5A-6A
CN101B	13-22507-00	Connector Socket	XHB 2.5A-7A/TJC3-7A
S101, S102	11-05202-19	Side Switch	5FD1S102M2QES
PCB-7:PSU BOARD			
	PART NO.		DESCRIPTION
	PCB INFO		
	01-29807-01	PSU BOARD	
	02-29807-01	PSU BOARD	SMT
	A16-29807-22	PSU BOARD PCB	VM2.0,FR-4,1.6mm ,2Layers,2Oz, TG130,100x270mm
	DIODE		
D917	33-15609-06	Zener Diode	PDZ5.6B 5.6V,0.4W,SOD323
D907, D908, D909, D910, D911, D919,D926	33-20316-01	High speed Diode	BAS316
D907, D908, D909, D910, D911, D919	or N33-44448-01	High speed Diode	IN4448HWS-7-F
D901, D902, D903, D904, D905, D906	33-40054-02	Schottky Rectifier Diode	BAT54J
T902, T903, T904, T905, T906, T907, T910	33-40056-00	High-speed double diode	BAW56W SOT323
T902, T903, T904, T905, T906, T907	or 33-40056-01	High-speed double diode	BAW56W-7-F
D922, D924	33-20007-00	Rectifier Diode	M7A, 1A 1000V
D913, D914, D915, D916	33-20220-01	Ultrafast Power Rectifier	MURA220T3G
D913, D914, D915, D916	or N33-20002-05	Ultrafast Power Rectifier	ES2D
D920	33-20120-01	Schottky Rectifier Diode	MURS120/MURS120T3G
D920	or 33-20001-03	Ultrafast Rectifier	ES1D
BD901, BD902	33-30062-00	BRIDGE RECTIFIER	B6S, 0.8A 600V
D923	33-11800-30	Zener Diode	18V, 3W, ±5%, SMB
D925	33-11200-11	Zener Diode SMD	12V,1/2W, LL34
BR901	33-32542-00	Rectifier Bridge	TS25P05G 25A/420VRMS
Q901	31-00139-03	12 A four-quadrant triacs,	BT139X-600E,127
D921	33-25822-00	Schottky Rectifier Diode	1N5822
D918	33-24006-00	Rectifier Diode	UF4006
D912	33-26200-00	Transient Suppressor	P6KE-200A
	TRANSISTORS		
Q902, Q903, Q906, Q907, Q908, Q909, Q910, Q911	31-00807-40	Transistors	BC807-40W PNP
Q904, Q905	31-00817-40	Transistors	BC817-40W PNP
Q918, Q919, Q920, Q921, Q922, Q923, Q931,Q932	31-00846-02	Transistors	BC846BW SOT323
Q918, Q919, Q920, Q921, Q922, Q923, Q931	or N31-00846-06	Transistors	BC846BW-7-F
Q924 Q925, Q926, Q927, Q928	31-00856-03	Transistors	BC856BW SOT323
Q926, Q927, Q928	or N31-00856-06	Transistors	BC856BW-7-F
Q930	31-00647-01	Transistor	2SB647-D
	IC		
U904	03-00494-02	Power controller IC	TL494CDR, SOIC-16
IC901, U911	03-00431-11	Regulator	TL431BCDBZR
U909, U910	A03-00817-09	Photo Coupler	EL817S1(B)(TA)-F
U903	A03-00817-15	Photo Coupler	EL817S1(D)(TA)-F
U901	03-00393-02	LOW POWER DUAL OP-AMP	LM393MX/NOPB
U908	03-00284-00	Power controller IC	TNY284PG,DIP8
U906	03-07812-00	3-Terminal Regulator	L7812CV
U905 U913	03-07812-20	3-Terminal Regulator	NJM78M12FA TO220AB
U907	03-07912-20	Regulator	NJM7912FA
U912	03-07812-10	3-Terminal Regulator	KA78R12CTU TO-220F-4L
U902	03-03043-01	ZERO-CROSS OPTOISOLATORS TRIAC DRIVER OUTPUT	MOC3043M
	RESISTOR		
R929, R930, R931, R932, R933, R934, R935	07-91009-00	Chip Resistor	10Ω,0603,1/10W,±1%,RC0603FR-0710RL
R916, R938, R939, R940, R941, R942, R943, R944, R945, R93	07-91001-00	Chip Resistor	1KΩ,0603,1/10W,±1%,RC0603FR-071KL
R946, R974	07-91201-00	Chip Resistor	1.2KΩ,0603,1/10W,±1%,RC0603FR-071K2L
R960	07-92201-00	Chip Resistor	2.2KΩ,0603,1/10W,±1%,RC0603FR-072K2L
R959	07-92701-00	Chip Resistor	2.7KΩ,0603,1/10W,±1%,RC0603FR-072K7L
R973	07-94701-00	Chip Resistor	4.7KΩ,0603,1/10W,±1%,RC0603FR-074K7L

R908	07-95101-00	Chip Resistor	5.1K Ω ,0603,1/10W, \pm 1%,RC0603FR-075K1L
R904, R905, R907, R963, R972, R986	07-91002-00	Chip Resistor	10K Ω ,0603,1/10W, \pm 1%,RC0603FR-0710KL
R975	07-91802-00	Chip Resistor	18K Ω ,0603,1/10W, \pm 1%,RC0603FR-0718KL
R906, R962, R964, R965, R966, R967, R982, R992, R91 R94, R96	07-94702-00	Chip Resistor	47K Ω ,0603,1/10W, \pm 1%,RC0603FR-0747KL
R921, R922, R923, R924, R925, R926	07-91003-00	Chip Resistor	100K Ω ,0603,1/10W, \pm 1%,RC0603FR-07100KL
R913	07-92203-00	Chip Resistor	220K Ω ,0603,1/10W, \pm 1%,RC0603FR-07100KL
R912, R914, R915, R92 R95	07-91004-00	Chip Resistor	1M Ω ,0603,1/10W, \pm 1%,RC0603FR-0711ML
R928	07-91009-01	Chip Resistor	10 Ω ,0805,1/10W, \pm 1%,RC0805FR-0710RL
R989	07-91000-01	Chip Resistor	100 Ω ,0805,1/10W, \pm 1%,RC0805FR-07100RL
R948	07-92202-02	Chip Resistor	22K Ω ,1206,1/4W, \pm 1%,RC1206FR-0722KL
R97, R98, R99, C984, C985, C986	07-90000-01	Chip Resistor	0 Ω ,0805,1/8W, \pm 5%
R936, R937, R988, R994	07-91001-01	Chip Resistor	1K Ω ,0805,1/8W, \pm 1%,RC0805FR-0711KL
R969, R991	07-92001-01	Chip Resistor	2K Ω ,0805,1/8W, \pm 1%,RC0805FR-072KL
R993	07-94701-01	Chip Resistor	4.7K Ω ,0805,1/8W, \pm 1%,RC0805FR-074K7L
R903, R990	07-91002-01	Chip Resistor	10K Ω ,0805,1/8W, \pm 1%,RC0805FR-0710KL
R985	07-92202-01	Chip Resistor	22K Ω ,0805,1/8W, \pm 1%,RC0805FR-0722KL
R947,R971	07-94702-01	Chip Resistor	47K Ω ,0805,1/8W, \pm 1%,RC0805FR-0747KL
R949, R961, R979, R980	07-91008-02	Chip Resistor	1 Ω ,1206,1/4W, \pm 1%,RC1206FR-071RL
R981	07-91009-02	Chip Resistor	10 Ω ,1206,1/4W, \pm 1%,RC1206FR-0710RL
R950, R952, R953, R954, R956, R968	07-91209-02	Chip Resistor	12 Ω ,1206,1/4W, \pm 1%,RC1206FR-0712RL
R987	07-90820-02	Chip Resistor	82 Ω ,1206,1/4W, \pm 5%,RC1206JR-0782RL
R995, R996	07-91000-02	Chip Resistor	100 Ω ,1206,1/4W, \pm 1%,RC1206FR-07100RL
R910, R911	07-91500-02	Chip Resistor	150 Ω ,1206,1/4W, \pm 1%,RC1206FR-07150RL
R909	07-90103-02	Chip Resistor	10K Ω ,1206,1/4W, \pm 1%
R917, R918, R919, R920	07-91003-02	Chip Resistor	100K Ω ,1206,1/4W, \pm 1%,RC1206FR-07100KL
R900, R997, R998, R999	07-90105-02	Chip Resistor	1M Ω ,1206,1/4W, \pm 5%,RC1206JR-071ML
R901, R902	07-93903-02	Chip Resistor	390K Ω ,1206,1/4W, \pm 1%,RC1206FR-07390KL
R983, R984	07-90205-02	Chip Resistor	2M Ω ,1206,1/4W, \pm 5%,RC1206JR-072ML
R970, R976, R977	07-92207-06	Chip Resistor	0.22 Ω , \pm 1%,2512
R951, R957, R958, R978	07-90220-06	Chip Resistor	22 Ω ,2512,1W, \pm 5%
R955	07-91008-01	Chip Resistor	1 Ω ,0805,1/8W, \pm 1%,RC0805FR-071RL
NTC901	A07-70255-00	NTC	SCK255R0MSBY, 5 Ω 12A
ZV901	A07-70471-01	TVS	HEL-14D471K,Pitch=7.5mm
ZV901	or A07-70471-00	TVS	BK471KD14
R927	07-30104-06	Metal Oxide film Resistor	RY21, 100K Ω , 2W, \pm 5%
CAPACITORS			
C926	26-47151-00	Ceramic Chip Capacitor	470pJ,50V,0603,NPO
C924, C927	26-10251-00	Ceramic Chip Capacitor	1nK,50V,0603,X7R
C982	26-10551-00	Ceramic Capacitor SMD	1uZ, 50V, Y5V, 0603
C980	26-22451-00	Ceramic Capacitor SMD	220nZ,50V Y5V,0603
C981 C983	26-10451-10	Ceramic Chip Capacitor	100nK,50V,0603,X7R
C923	26-10421-10	Ceramic Chip Capacitor	100nK,25V 0603,X7R
C921	26-22421-00	Ceramic Chip Capacitor	220nK,25V,0603,X7R,C1608X7R1E224KT
C905, C906, C907, C976	26-10521-10	Ceramic Chip Capacitor	1uK,25V,0603,X7R
C925	26-22511-10	Ceramic Chip Capacitor	2.2uK, 0603, 10V, X5R
C904, C910	26-10521-01	Ceramic Chip Capacitor	1uF, 10%, 25V, X7R
C928	26-10351-01	Ceramic Chip Capacitor	10nK,50V,0805,X7R
C933, C934, C935, C951, C972	26-10222-01	Ceramic Chip Capacitor	1nK,200V,0805,X7R
C929, C930, C931, C932, C942, C943, C944, C947, C952, C953, C956, C958, C959, C960, C961, C975, C979	26-10412-01	Ceramic Chip Capacitor	100nK,100V,X7R,0805,C2012X7R2A104KT
C919, C920	26-12222-32	Ceramic Chip Capacitor	1.2nJ,200V,1206,NPO,1206N122J201CT
C911, C912, C913, C914, C915, C916	26-15122-02	Ceramic Chip Capacitor	150p 200V NPO 1206
C901, C908, C909, C945	26-10362-12	Ceramic Chip Capacitor	10nK,630V,X7R,1206,1206CC103KAZ1A
C970, C971	26-10422-02	Ceramic Chip Capacitor	100nK,200V,1206,X7R,C3216X7R2E104KT
CX902, C917, C918	A25-47422-00	Interference Suppression Cap	MKP62/MPX,0.47uF, 275V, 10%, Pitch=15mm
CX901	A25-10522-02	Metallize Polyester Capacitor	MKP62-X2,1uF/275V,20%,26.5x22x12mm
CY901, CY903, CY904	A05-10242-00	High Voltage Ceramic Capacitor	1nF,400V(X1),250V(Y1), \pm 20%,CT81-400VAC-08b-2E4-102M-YA
C987	25-10461-00	Metallized Polyester Film Capacitor	CL23B-63V-104KR, C241J104K20A201
CY902	A05-22242-00	High Voltage Ceramic Disc Capacitor	2.2nF, 400V(X1), 250V(Y1), \pm 20%, Pitch=10mm
C948	05-10113-00	High Voltage Ceramic Capacitor	100pF, 10%, 1KV,CT81-1KV-06c-2B4-101K
C949, C957	06-10051-02	Alu Electrolytic Capacitor	CD263(X),10uF,50V, \pm 20%,105 $^{\circ}$ C
C946	06-47042-01	Alu Electrolytic Capacitor	CD263,47uF,400V, \pm 20%,105 $^{\circ}$ C / RGA470M2GBK-1625
C922	06-22021-03	Alu Electrolytic Capacitor	CD263(X),22uF,25V, \pm 20%,F2.5,D=5mm
C962	06-10121-04	Alu Electrolytic Capacitor	CD263(X),100uF,25V, \pm 20%,105 $^{\circ}$ C,F2.5
C963	06-10131-02	Alu Electrolytic Capacitor	CD263X,100uF,35V, \pm 20%,D=6.3,F2.5
C950	06-10131-06	Alu Electrolytic Capacitor	CD263,100uF,35V, \pm 20%,105 $^{\circ}$ C,F3.5
C964, C965, C966, C967, C968, C969	06-47161-04	Alu Electrolytic Capacitor	CD287,470uF,63V, \pm 20%,105 $^{\circ}$ C,5000H

C936, C937, C940, C973	06-22131-09	Alu Electrolytic Capacitor	CD263(X),220uF,35V,±20%,105°C,F3.5
C938, C939, C941, C974	06-33121-01	Alu Electrolytic Capacitor	CD263(X),330uF,25V,±20%,F3.5
C954, C955	06-10211-19	Alu Electrolytic Capacitor	CD282,1000uF,10V,±20%,105°C,F3.5
C902, C903, C977, C978	06-68122-06	Alu Electrolytic Capacitor	CD294, 680uF, 200V, ±20%, 30x30mm
MOSFET			
Q912, Q913	31-01850-03	N-ch POWER MOSFET	FDP18N50
Q914, Q915, Q916, Q917	31-00412-00	N-ch POWER MOSFET	AOT412
RELAY			
K901	A12-01101-26	Relay	HF115F-I/012-1HS3A
INDUCTOR			
L901	08-05220-01	INDUCTOR	R0603-22uH, 22uH
L909, L910	08-05192-00	Inductor	1m9H/9A,(HJ-2512-19)CE-T25B
L905, L906, L907, L908	08-02065-00	Ferriet Bead	65R/100MHZ 7A,BL01RN1A1F1J
L904	08-02339-00	Inductor	3.3uH,LGB0810-3.3uH
TRANSFORMER			
T901	J22-07316-00	Transformer	GATE Drive SR
T909	A22-00016-35	Transformer SBY	EE16STB50 Suzhou Hejia
T908	A22-00042-12	Transformer	Suzhou Hejia ER42 CI980
TH901	A07-70022-19	Thermal Circuit Brake	ST-22 90°C W TYPE
TH902	07-70103-09	NTC	103AT-4,10KΩ,±1%,shape 1, L=100mm 103AT-4-70261
CONNECTER			
J906	14-29803-10	Cable	UL2468#24AWG*3P,L=240mm
J905	14-29804-11	Cable	UL2468#24AWG*4P,L=190mm
J901	14-40804-01	Cable	UL2468#24AWG*4C,L=120mm
J904	14-40805-02	Cable	UL1015#18AWG*5C,L=120mm
J903	13-23903-01	Connector	LD7.92A-2A, (VH 3.96A-3A)
J907	13-22504-00	Connector	XHB 2.5A-4A
F901	A20-12122-04	FUSE	1.25AL250V
MECHANISM PARTS			
S903	70-420002-1	Heat sinkA	AL ,T=3mm
S902	70-420003-2	Heat sink	AL ,T=3mm
S901	70-420004-0	Heat sinkB	AL6063,T=3mm
FASTENERS			
Used for S901, S903	62-010302-0	Nut	GB6170, M3, Zinc Blue
Used for Q912, Q913	66-162004-0	S2 Clamp 3	Stainless Steel
Used for U905, U907, U912, U913	61-023208-0	Self Tapping Screw	BTB3x8,Zinc Black
Used for Q912, Q913	61-023512-0	Machine Screw	MB3x12,Zinc Blue
Used for S901	61-023514-0	Machine Screw	MB3x14,Zinc Blue
Used for Q914, Q915, Q916, Q917	61-023515-0	Machine Screw	MB3x15,Zinc Blue
Used for Q914, Q915, Q916, Q917	85-157001-0	Transistor Washer	TW-4
Used for Q914, Q915, Q916, Q917	78-369002-0	Transistor Washer	26x20mm
	63-020308-1	Spring Washer	φ3,Zinc Black
Used for Q912, Q913	78-184001-0	Sleeve	TO-220CV
	A78-000080-0	Heat Shrinking Tube	Φ8
Used for L909	A78-000300-1	Heat shrinking Tube	Φ30, CB-HFT
MISC&MECHANICAL PARTS			
Power socket To Power switch	14-53201-01	Cable	UL1672#18AWG Red,L=80mm
AC Inlet To Chassis	A14-40801-00	1PIN CBALE	UL1672#18WAG, Yellow Green Wire , L=90mm
220VAC Input socket To PSU Board	A14-40802-01	Cable	UL1672#18AWG*2C,Red,L=250mm
	A35-26025-01	Fan	FD126025-SM1,L=11cm
	17-03004-30	Terminal Block	SP99504VBNC
RF-1003-BBG8A2L1T, 10A 250V, TV-5	A11-01101-03	Rocker Switch	RF-1003-BB2, TV-5
FS1	A20-12632-00	Fuse	061806.3MXP, T6.3AL/250V
	A17-07103-21	AC Inlet	10SS3-A1PH2G-Q, 10A 115V/250V
	94-369002-0	Terminal Block Label	19x4mm
MECHANISM PARTS			
	78-001002-1	Foot pad	VHMC-30U, HV:90°±2°,OD=25.5mm,ID=14.1mm,T=3mm
	75-124001-0	Foot	ABS765B,Black
	74-123003-1	Input Buttons	ABS 765B
	77-124004-0	Power Button Bezel	UL94V-0
	76-008001-0	LED lens	PMMA
	86-046001-0	LED Lens Gum	3m Dobbble side adhensive
EVA			
	79-420001-0	Indicator light	EVA, 82mm*22mm*15mm ,Double-sided gum

	79-420002-0	EVA1	EVA , 34*10*3mm,The single side of gum
	79-420003-1	EVA2	EVA , 65*18*2mm,The single side of gum
	78-420001-0	Insulated Sheet	GK-17,Black,T=0.5mm,169x92mm
	79-420004-0	EVA3	EVA,420*8*0.5mm,The single side of gum
	79-420005-1	EVA4	EVA , 398*8*1mm,The single side of gum
	85-460001-0	Nylon Spacer	3-16.8
METAL			
	70-420005-0C	front Panel	AL 6063 T5
	67-420001-1D	Rear Panel	SECC T=1mm
	80-420001-1	Rear Panel	SECC T=1mm
	65-420001-1	Rear Panel	SECC T=1mm
	66-420001-0	Chassis	SECC T=1mm
	67-420002-2	Subfascia	SECC T=1.2mm
	65-420002-2	Subfascia	SECC T=1.2mm
	66-420003-0	Converter Block	SECC T=1.5mm
	70-420007-1	Moutain Bar 2	AL 6063 T5
	70-420008-1	Moutain Bar 1	AL 6063 T5
	67-420004-1	Top Cover	SECC T=1mm
	65-420004-1	Top Cover	SECC T=1mm
	67-420005-1	Mesh	SPCC T=0.5mm
	70-420012-1	Handle	AL 6063 T5
	67-420007-0	fan guard	G06B4-4HA-R
FASTENERS			
Fixed Converter Block&Converter Block	61-063208-0	Taptite Screw	BTF3x8 Zinc Black
Fixed chassis basePCB	61-023508-2	Machine Screw	MB3x8, Nickel Plated
Fixed Moutain 1(2),Moutain 2(2),Handle(4)	61-064510-0	Machine Screw	MF4x10, Zinc Black
Fixed chassis base, front Panel&Converter Block(4), Converter Block &Converter Block(4),RCA(7)	61-023208-0	Self Tapping Screw	BTB3x8,Zinc Black
Fixed fan	61-023530-0	Machine Screw	MB3x30, Zinc Black
Fixed fan	62-010302-1	Nut	M3,Zinc Blue
FIX SWITCH PCB(3),LEDPCB(3), PCB&Rear Panel (8)	61-023506-0	Machine Screw	MB3x6,Zinc Black
LEDPCB(1)	61-023516-0	Machine Screw	MB3x16,Zinc Black
Fixed Top Cover	61-084208-0	Self Tapping Screw	BTPW4x8, Zinc Black
Fixed fan guard	61-083206-0	Self Tapping Screw	BTPW3x6,Zinc Black
Fixed Foot pad&chassis base(4),Rear Panel&chassis base(5), Rear Panel&Top Cover(3),front Panel&Converter Block(4), Fixed360.1 terminal & Rear Panel (4) ,Switch&Switch PCB (2)	61-023206-0	Self Tapping Screw	BTB3x6,Zinc Black
	61-024506-1	Machine Screw	MB4x6, Nickel Plated
	84-001003-0	Cable Tie	YJ-100
	84-068001-0		WL3-60T
	63-110305-0	Washer	φ3xφ7x0.5
PACKING			
	88-420001-0A	Master carton	ID=534*389*204mm
	89-420001-0	EPE LEFT	EPE White
	89-420002-0	EPE RIGHT	EPE White
	89-420003-0	EPE for handle	EPE White
	30-00050-00	Desiccant	20g, 2009/251/EC
	90-114003-0	Polybag	
	90-028003-0	Polybag	80x120mm
	90-001002-0	Manu Polyfbag	220x370mm
	90-019001-0	Polybag	630X470mm
LABEL			
	94-420001-0	S/N Label	53x10mm
	86-000053-0	Copperplate Lable	53x10mm
	94-420002-1	Version Label	115x85mm
	94-420012-2	Version Label	115x85mm
INSTRUCTIONS			
	30-51500-01	Guarantee Card	210X148mm,
	30-42981-00	Quick Setup Guide	370X287mm, fold : 185X287mm,Black
AC CORD(USA)			
	A15-10125-12	AC Cord	DTII-3P-11+SVT 18AWG/3C 105C+DTII-3P-04 L=1800mm Black
	or JA15-15120-00	AC Cord	LP30B & LS13 SVT 18AWG 105C Black 3C L=1800mm
AC CORD(EUR)			
	A15-16250-11	AC Cord	DTIII-2P+05+H05VV-F 3G1.0+DTII-3P-04 L=1830mm Black
	or JA15-16250-00	AC Cord	3PINS 16A 250V LF L=6'7" LP-34 H05VV-F 3C LS-60

ASSY EXPLODED VIEW



EXPLODED VIEW PARTS LIST

Item	Part/No	Part/Name	Qty	Remark
1	A17-07103-21	AC INLET	1	
2	A11-01101-03	Rocker switch	1	
3	01-29801-01	MAIN AMP PCB	4	
4	70-420009-1	AMP heatsink	4	
5	70-420003-2	heatsink	1	
6	70-420002-1	heatsinkA	1	
7	70-420004-0	heatsinkB	1	
8	01-29807-01	PSU board Assy	1	
9	66-420003-0	converter block	2	
10	70-420008-1	moutain bar1	1	
11	74-123003-1	input button	1	
12	77-124004-0	power button brezel	1	
13	01-29805-01	Power LED Assy	1	
14	67-420005-1	mesh	2	
15	76-008001-0	LED LENS	4	
16	79-420001-0	indicator lights EVA	1	
17	01-29804-01	LED Assy	1	
18	70-420005-0C	front panel	1	
19	A35-26025-01	fan	2	
20	70-420007-1	moutain bar2	1	
21	67-420002-2	subfascia	1	
22	70-420012-1	handle	2	
23	75-124001-0	foot	4	
24	66-420001-0	chassis	1	
25	01-29802-01	Pre Amp Assy	1	
26	67-420007-0	fan guard	2	
27	78-001002-1	foot pad	4	
28	01-29806-00	Power Switch Assy	4	
29	01-29803-01	Global IN Assy	1	
30	67-420001-1D	rear panel	1	
31	67-420004-1	top cover	1	
32	17-03004-30	Speaker Connector	4	

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